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**SWAZILAND PRIMARY HEALTH CARE PROJECT
END OF PROJECT EVALUATION**

**NO. PDC-1406-I-00-7114-00
DELIVERY ORDER NO. 5**

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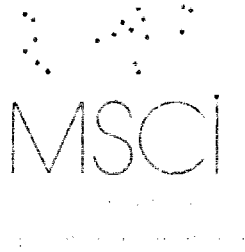
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January 11, 1991

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January 11, 1991

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RE: Delivery Order No. 5,
Contract No. PDC-1406-I-00-7114-00

Dear Ms. Henwood:

Medical Service Corporation International (MSCI) is pleased to submit twenty (20) copies of the Swaziland Primary Health Care Project: End of Project Evaluation report.

Dr. Riitta Liisa Kolehmainen-Aitken's intent was to be completely responsive to USAID/Swaziland in considering its comments and incorporating them into the final report as she felt appropriate. At the same time, she gave other members of the MSCI Evaluation Team an opportunity to respond to the comments.

If you desire amplification or clarification of any point prior to approval, please contact me at (703) 276-3000.

Thank you for the opportunity to submit this report.

Sincerely,

La Rue K. Seims
Project Associate

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TABLE OF CONTENTS

LIST OF ANNEXES

ACKNOWLEDGEMENTS

GLOSSARY

EXECUTIVE SUMMARY	i
SUMMARY OF PRINCIPAL RECOMMENDATIONS	i
1. INTRODUCTION	1
2. BACKGROUND	1
2.1. <u>Swaziland: The Country and its Health Status</u>	1
2.2. <u>The Primary Health Care System in Swaziland</u>	3
2.3. <u>The PHC Project</u>	5
3. METHOD OF EVALUATION	6
4. TRAINING	8
4.1. <u>Training Impact</u>	8
4.2. <u>Categories of Training</u>	10
4.3. <u>Selection of Trainees and Trainers</u>	13
4.4. <u>Achievements</u>	13
4.5. <u>Recommendations</u>	14
5. CLINIC SERVICE DELIVERY	14
5.1. <u>General Observations on the Preparation and Performance of Rural Clinic Nurses</u>	16
5.2. <u>A Serious Shortfall of Nursing Staff to Serve in Rural Clinics</u>	19
5.3. <u>Maternal Health Care</u>	23
5.4. <u>Family Planning</u>	30
5.5. <u>Child Health Services</u>	33
5.6. <u>Clinic Management</u>	35
5.7. <u>Home Visits</u>	36
5.8. <u>Supervision</u>	37
5.9. <u>Outreach Sites and Project Accomplishments</u>	40
5.10. <u>Recommendations</u>	41
6. DECENTRALIZATION	43
6.1. <u>Swaziland Decentralization in Principle</u>	44
6.2. <u>PHCP and Decentralization</u>	46
6.3. <u>Decentralization in Practice</u>	48
6.4. <u>Recommendations</u>	51

7.	PLANNING, BUDGETING, AND FINANCING	52
7.1.	<u>PHC Project Priorities</u>	52
7.2.	<u>Project Inputs</u>	52
7.3.	<u>Project Achievements</u>	53
7.4.	<u>Findings</u>	54
7.5.	<u>Project Outputs</u>	57
7.6.	<u>Recommendations</u>	58
8.	HEALTH INFORMATION SYSTEM	58
8.1.	<u>Background</u>	58
8.2.	<u>Purpose and Applications of HIS</u>	60
8.3.	<u>Data Collection</u>	61
8.4.	<u>Reporting Systems</u>	63
8.5.	<u>Staffing</u>	64
8.6.	<u>Short-term HIS Training</u>	65
8.7.	<u>Long-term HIS Training</u>	67
8.8.	<u>Development and Integration of Additional HIS Applications</u>	68
8.9.	<u>Software</u>	69
8.10.	<u>Hardware</u>	70
8.11.	<u>Data Analysis, Interpretation and Reporting</u>	71
8.12.	<u>Data Utilization</u>	74
8.13.	<u>Summary</u>	75
9.	SUMMARY OF ACHIEVEMENTS RELATIVE TO THE EOPSES	75

LIST OF ANNEXES

- Annex 1 Scope of Work
- Annex 2 Places/Institutions and People Visited
- Annex 3 PHCP Progress towards Achievement of Indicators
- Annex 4 Some of the Documents Consulted by the Evaluation Team
- Annex 5 Out of Country Trainees
- Annex 6 PHCP-funded Training Events
- Annex 7 Other Training Events after the MTE with Major PHCP Inputs
- Annex 8 Consultancies to Assist with Decentralization, Planning, Budgeting, Financial Management and Health Care Financing
- Annex 9 Statistical Tables



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GLOSSARY

ARI	Acute Respiratory Infections
BCG	Bacillus Calmet Guerin
CBT	Clinic Based Training
CCCD	Combatting Communicable Childhood Diseases
CDC	Centers for Disease Control
CDD	Control of Diarrheal Diseases
COP	Chief of Party
DPT	Diphtheria-Pertussis-Tetanus
DTF	Decentralisation Task Force
EOP	End of Project
EOPS	End of Project Status
EPI	Expanded Program on Immunizations
FHS	Family Health Survey
FP	Family Planning
FLAS	Family Life Association of Swaziland
FY	Fiscal Year
GDP	Gross Development Product
GOS	Government of Swaziland
HA	Hospital Administrator
HBCU	Historically Black Colleges and Universities
HIS	Health Information Systems
ICD	International Coding of Diseases
IEC	Information, Education and Communication
IHAP	International Human Assistance Program

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IMF	International Monetary Fund
LOP	Life of Project
LT	Long-Term
MCH	Maternal and Child Health
MIS	Management Information System
MOE	Ministry of Education
MOH	Ministry of Health
MTE	Mid-Term Evaluation
NA	Nursing Assistant
NHAC	National Health Advisory Council
ORT	Oral Rehydration Therapy
PHC	Primary Health Care
PHCP	Primary Health Care Project
PHN	Public Health Nursing
PHU	Public Health Unit
PP	Project Paper
PWD	Public Works Department
RHA	Regional Health Administrator
RHAC	Regional Health Advisory Council
RHM	Rural Health Motivator
RHMT	Regional Health Management Team
RIO	Regional Information Officer
RPR	Rapid Plasma Reagin
SHA	Senior Health Administrator
SN	Staff Nurse

STD	Sexually Transmitted Diseases
TA	Technical Assistance
TRF	Total Fertility Rate
UPS	Uninterrupted Power Supply
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

The Swaziland Primary Health Care Project (PHCP) was designed in 1985 to improve and expand the country's primary health care system. The total project cost over five years was \$7,945,000, with USAID grant funding covering \$5,700,000. The project was originally designed as an umbrella project covering a large variety of inputs aimed at strengthening PHC service delivery.

In the five years of implementation, the Project encountered a series of problems. A stop-work order, issued by USAID in 1986 because the GOS failed to establish several key MOH positions considered essential for Project efforts, delayed the Project start by four months. The broad nature of the original project design resulted in an unfocused work plan which needed several revisions. Because of the very limited MOH staff resources and rapid staff turnover, the PHCP counterparts had multiple responsibilities, causing Project staff to function, not as technical advisors, but as implementors of Project inputs with only limited opportunity for transfer of skills. The PHCP team itself experienced considerable turnover of staff, a change in the COP half way through the Project, and a serious illness of one team member which incapacitated him for several months.

Project priorities changed considerably as a result of the mid-term evaluation conducted in 1988. The focus shifted from improving national level health sector infrastructure to strengthening service delivery at the regional and clinic levels. On the request of USAID/Swaziland, the end-of-project evaluation, conducted in October 1990 and documented in this report, focused on Project performance after the MTE.

The most important Project inputs have taken place in training; PHC delivery at the clinic level; decentralization, health planning, budgeting, financial management and health care financing; and the development of the health information system (HIS). Below, the main findings of the evaluation are discussed under each of these headings.

Training:

Training has been one of the most important products of the PHCP. Project staff were instrumental in seeking alternative training modes to the frequent workshops which had produced inordinate pressures on both Swazi health personnel and the health care delivery system. The community based training (CBT) model for in-service training of clinic nursing staff was developed by the PHCP as a response to a MOH request for more practical on-site training in key PHC areas.

CBT and the training of trainers for it are impressive Project outputs. A total of 97 nurses and 50 nursing assistants have so far been trained in 15 courses. Evidence of the beneficial impact of CBT on clinic performance was observed during clinic visits. Training modules have been produced in five PHC areas: ARI, ORT, EPI, antenatal care/breastfeeding promotion, and growth monitoring/nutrition. In addition, the Project has provided assistance to the design of a national EPI manual, intended as a referral manual for all pre- and in-service training done in Swaziland. There is concern, however, about the sustainability of CBT once the PHCP closes.

The PHCP has supported 57 people for overseas training. One person is still in training and most of the others have only recently returned to Swaziland. It was too early to make a final assessment of the benefits of their training.

The PHCP training efforts have taken place within serious constraints. The MOH does not have a clear, usable training policy and plan which would provide a mandate for its training efforts. It also lacks an effective office of training coordination. Finally, the Project did not utilize professional trainers and instructional designers.

Clinic service delivery:

The Swaziland PHC system was found to have many strengths. It is heavily utilized by the people, and both antenatal and immunization coverages are high in comparison with other developing countries. Most of the clinic nurses the team observed seemed to be hard-working, possess good communication skills and be actively involved in health education.

The most critical weakness in the PHC system is the overall shortage of nurses at all levels. This is due in part to the attraction of jobs in South Africa. The severe staff shortages at the clinic level are aggravated by the reluctance of young nurses to be posted in the rural areas and by the fact that the posting of clinic nurses is in practice controlled by the regional hospital matrons. The responsibility for posting clinic nurses should be returned to the Regional Health Management Teams (RHMTs).

Most clinic nurses appear well-prepared for their roles in preventive and promotive health care. While such service statistics as immunization coverage, average antenatal visits per mother and ORT encounters have increased substantially during the PHCP, it is not possible to attribute such increases solely to Project inputs through CBT or other activities. CBT has, however, been an extremely valuable input. The MOH should compile the information presently included in the CBT modules together with other relevant material into a manual to provide further guidance to clinic nurses in critical areas of PHC.

The skills of clinic staff nurses in curative outpatient care were found to be weak. The overall shortage of staff nurses forces even nursing assistants to assume clinical responsibilities for which they have not been trained. A higher priority should be given to preparing nurses for curative roles. This includes resuming the nurse practitioner training programs in country.

Many valuable, high-quality inputs have been provided by the PHCP to improve technical aspects of PHC. Most notable have been the development of a clinic reference manual and a drug management system with a formulary, setting up filing systems for health centers, improving housing for nurses and providing equipment for outreach sites.

At the request of the MOH, the PHCP developed a protocol for routine post-partum visits which calls for pelvic examinations and Papanicolaou smears to be conducted on every woman. The costs and benefits of implementing this protocol have not been adequately considered. The major public health benefits associated with routine post-partum visits come from educating the mother and interviewing her to identify problems. Given the shortage of nurses, the new post-partum routine could overload the system to the extent that such other, more valuable services would be damaged.

The MOH has directed considerable efforts towards training and encouraging nurses to conduct home visits. Some home visiting is being done, mostly by nurses based in PHUs. Given the shortage of nursing staff, it is not practical to expect clinic nurses to conduct many home visits. There is a need to examine the costs and benefits of continuing with home visiting.

Outreach sites are used by many rural people as their source of PHC. Their number and quality have been increased through PHCP efforts. Family planning cannot currently be provided in most outreach sites, because it is not possible to do the pelvic examination required by the MOH prior to starting a woman on hormonal contraception. A study should be conducted to measure the contribution of this examination to safe contraceptive care, since it severely limits rural women's access to family planning.

The PHCP has significantly improved the supervision, organization, management and physical set up of rural clinics. Supervision is still inadequate. No actual MOH posts exist for clinic supervisors. Nurses functioning in this capacity are usually chosen on the basis of seniority, rather than supervisory ability. Such posts should be established and suitable nurses selected to fill them.

The PHCP has attempted to improve the poor standard of accommodation for rural nurses. While the Project inputs in this area have been important to the motivation of nursing personnel, they are very small relative to need. This area will need systematic and continuing attention by the GOS.

Decentralization, health planning, budgeting and financing:

The MOH adopted in 1983 a decentralized mode for planning and managing the country's health services. Formal regional government structures were not well developed, and other sectors remained centralized. The decentralization process for health services was to be guided at the national level by the Decentralisation Task Force (DTF), composed of senior national and regional health managers. A Regional Health Administrator (RHA), who chairs the RHMT, was posted to each of the four regions. The RHMT was made up of the senior health professionals in the region. A Regional Health Advisory Council (RHAC) was to provide policy guidance and help mobilize regional resources, while a National Health Advisory Council (NHAC) was to do this at the national level.

The PHC Project set out to develop and institutionalize the new planning, budgeting and financial management systems and procedures. In addition, it targeted health care financing, transport and communications as further areas of emphasis. On-going support focused on improving regional planning and management skills. The Project developed several decentralization, planning, budgeting and management guidelines and manuals. Consultancies were arranged on organizational development, team building, personnel planning and management, and financial management. Studies on user fees, unit costs, transport management, and communications were conducted, and a proposal for a pilot project on alternative financing developed. Various training events on planning and budgeting were arranged, and tours organized to Lesotho, Zimbabwe and Botswana to study decentralized health systems in those countries.

The financing studies undertaken through the Project are potentially of great benefit to the MOH. However, these studies, as well as many of the guidelines, manuals, and planning and budgeting procedures developed through PHCP support are very recent, with some still in draft form. While it is too early to assess fully their application and sustainability after the Project ends, it is evident that the decentralized planning and management systems are extremely fragile.

The MOH lacks clear statements of policies, priorities and strategies that would guide regional planning efforts. Very little epidemiologically-based policy formulation or planning is evident either at the national or regional levels. Planning capacities at all levels are very limited, and national and regional planning and budgeting procedures remain unsynchronized. The DTF has met only

twice in the last two years. The RHA cadre suffers from frequent staff turnover, and the RHMTs have not yet developed into effective, active regional teams in most regions. The NHAC has never been formed, and the RHACs have, at best, had mixed success.

Further progress in the planning and management of decentralized health services depends entirely on the willingness of Swazi health managers both to confront unresolved issues and to utilize Project-developed management guidelines and procedures. Seven years' experience has so far failed to institutionalize the decentralized planning and management systems. The cost-benefits of decentralizing health services under such severe staff constraints in a small country with good road access do not seem to have ever been considered. A thorough evaluation of decentralization's achievements, shortcomings and impact on the health system is overdue. If decentralization will remain national policy, several areas are in need of urgent attention. The MOH needs to be reorganized to equip it for its role in national policy formulation, standard setting and evaluation. The DTF should be revitalized, and the administrative cadre at national and regional levels staffed adequately with personnel who possess appropriate skills. Finally, national and regional planning efforts need to be integrated.

HIS/MIS:

The PHC Project has played a major role in maintaining and revitalizing some previously developed HIS/MIS components, and in attempting to coordinate additional HIS component developments to insure compatibility.

The Project has made a major contribution through the Family Health Survey, which provided an information base on health status, and in developing and refining outpatient data reporting systems and decentralizing the databases so that timely data are now available in each of the four regions.

The Project has worked with the MOH Statistics Unit to set up a computer library, provide documentation, train and provide troubleshooting assistance. However, no Swazi counterpart is available to assume the role currently performed by the Project's Associate. The MOH should hire at least one person, preferably an epidemiologist, to take on this role.

The PHCP has invested in one long-term HIS trainee who is scheduled to return from overseas studies just as the Project terminates. His program of study has deviated from the original plan, which was to provide training in health statistics at the bachelors level.

His current major in computer science directed toward business applications is related neither to HIS nor epidemiological analysis nor utilization of available software, such as dBASE III and statistical packages. An interest in placing the participant at a HBCU institution may have precluded the identification of the most useful program of study.

A large number of MOH staff have been provided with computer training through the Project efforts. Follow-up and supervision is needed to see that the skills are being utilized and to assess whether the applications are being continued. Additional training should also be provided in data verification, dBASE III, EPI INFO, SPSS and basic statistics.

Regional and national level positions must be established for data entry personnel. Their job descriptions should recognize their key roles in maintaining information system components. A review of the job category system should be undertaken to recognize the importance of computer skills as a means for advancement and increased remuneration to ensure retention of qualified staff.

There is a need for a national level HIS committee both to oversee the HIS development, integration, and utilization for planning, budgeting and evaluation, and to develop appropriate supervisory structures for statistical staff. While basic database components for a useful HIS/MIS system have been set up, maintenance of the components needs to be supervised. There is no system to track reporting and non-reporting centers. The facilities files are in urgent need of updating and should be integrated with other components of the HIS. A high priority should also be given to updating the 5-year Health Manpower Plan utilizing the Personnel Inventory and Nursing Roster in combination with the service delivery HIS statistics. The personnel system should be given attention to maximize the utilization of limited resources.

Some progress has been made in assisting with data analysis of available epidemiological and service statistics. However, continued and more intensive assistance in data analysis, interpretation and use for decision making is required. The recruitment of an epidemiologist for this purpose should be a priority. The publication of a regular newsletter with the interpretation of key information should be instituted to foster the use of HIS data by health staff and other interested users. Effort should be made to develop collaborative links with the CSO and other relevant government departments.

The current HIS data entry and reporting system was developed with assistance from a dBASE programmer in St. Kitts. No local computer expertise and familiarity with the current HIS system exists; this should be developed. Computer hardware service is being handled by a local firm, but there is a need to have at least one computer system available for loan when regional systems require repair.

Conclusion:

While the PHCP has succeeded in improving the motivation and skills of clinic level staff and in developing an effective training approach for their in-service training, it has not managed to institutionalize either the new planning and management systems and procedures or the in-service training strategies that have been developed. Many of the most effective inputs and activities under the PHCP have taken place only since the MTE, and in many cases, only in the last year. The time to operationalize them has been insufficient, and it is not possible to say at this stage what the eventual outcome will be.

SUMMARY OF PRINCIPAL RECOMMENDATIONS

1. TRAINING

- a. The MOH should formulate a national training policy and plan.
- b. The MOH should formulate a workplan stipulating the duties and responsibilities of the office of training coordination.
- c. A draft training system design for PHC training should be prepared.
- d. If the MOH continues with CBT, the Training Modules should be revised observing the principles of standard modular instructional design.
- e. The PHCP MCH Physician should progressively hand over CBT training duties to Swazi training staff during the remainder of the Project, while the training for an initial group of personnel from all four regions is completed.

2. CLINIC SERVICE DELIVERY

- a. The responsibility for deciding which nurses are assigned where should be removed from the hospital matrons and returned to the RHMTs.
- b. The MOH should take immediate steps to improve housing for nurses at rural clinics.
- c. To assist clinic nurses to deliver preventive/promotive services, the MOH should publish a manual, which should take due attention of the Clinical Reference Manual for Clinics and Health Centres and the Clinic Drug Formulary and Handbook, and include the following:
 - follow up of women with a positive syphilis screening test,
 - importance of pregnancy history information for predicting problems during the current pregnancy,
 - new sections on:
 - diagnosis and management of STDs;

- family planning;
 - the role of RHMs and how to work most effectively with them;
 - diagnosis and treatment of intestinal worms; and
 - skin diseases.
- d. A higher priority should be given to the need for a program to prepare SNs for their role in the diagnosis and management (treatment or referral) of ambulatory sick patients at rural clinics.
 - e. The MOH should reconsider the advisability of including pelvic examinations and Papanicolau smears during postpartum visits.
 - f. The MOH should conduct a study to measure the impact on decisions regarding the use of hormonal contraception of information obtained through the pelvic examinations, which are currently required at the time of the first family planning visit.
 - g. The MOH should examine the purposes, benefits and costs of home visiting by nurses and to clarify the expectations regarding home visiting.
 - h. The MOH should establish and fill posts for regional and/or sub-regional clinic supervisors as soon as possible. Job descriptions and selection criteria, including leadership ability and superior technical competence for these posts should be established to ensure that they are filled by suitable personnel.
 - i. The MOH should institute a routine system for evaluating the on-the-job performance of nurses and supervisors and for providing training in areas of observed weakness, including training skills for supervisors.

3. DECENTRALIZATION

- a. The MOH should reassess the rationale for decentralization and its achievements, shortcomings and impact on the Swazi health system.
- b. If the MOH intends to continue to pursue decentralization, revitalization of the Decentralization Task Force, appropriate staffing of the administrative cadre and integration of national and regional annual planning efforts all require urgent attention.

- c. If decentralization is pursued, the recommendations made in the extensive handing-over notes left by the PHC Project Health Management Associate and those included in the consultant report of Mr. Peter Shipp should be used to guide future decisions regarding its implementation.

4. PLANNING, BUDGETING, AND FINANCING

- a. The MOH should urgently consider how it might introduce epidemiological considerations into its planning and decision-making processes.
- b. The MOH should increasingly alter its role to take on the functions of national policy formulation, standard setting and evaluation. In order to do this, its planning capacity must be improved and lines of communication clarified.
- c. On-going, in-service training of regional staff in planning and budgeting should be continued.
- d. The MOH should update the 5-year health manpower plan in close cooperation with the Ministry of Labour and Public Service.
- e. The MOH should consider, and where appropriate, act on the various consultant reports covering the MOH structure, regional and vertical program planning, financing, financial management and transport.
- f. The key government central ministries and departments, most notably the Department of Economic Planning and Statistics and the Ministry of Labour and Public Service, should be made aware of the progress of the PHC project, in particular of the financing, financial management and health manpower planning aspects.

5. HEALTH INFORMATION SYSTEM

5.1. Data Collection

- a. The family planning reporting system should be revised to facilitate the nurse's ability to readily track the distribution of family planning supplies, in addition to services provided to clients. Information on clinic-level contraceptive inventories should be reported monthly in the HIS.

5.2. Reporting Systems

- a. The HIS should routinely report, in easily understandable form, a summary of facilities reporting and not reporting, by facility type and by HIS component.
- b. The MOH should require reports from all facilities, including company clinics, and should institute a system to follow up non-reporters, to check data accuracy and to flag and check reporting anomalies.
- c. The MOH should revise the facilities file. This includes updating information already on file, adding some new data items and developing a computer program that allows the manipulation of facilities files in conjunction with other HIS data files.

Additional data items to include are:

- the staffing pattern, including post vacancies;
- availability of basic services (electricity, running water, telephone);
- the existence of food programmes;
- functioning community health committees; and
- number of active Rural Health Motivators.

Facilities files should be used as a planning and monitoring tool, with key facility data displayed on maps.

- d. Future reporting systems could be designed using double-fold paper so that tallying could serve the additional purpose of creating a bar or histogram segment for display at the facility level.

5.3. Staffing

- a. The Statistics Unit should be a separate Responsibility Centre with staff and budget.
- b. An epidemiologist should be recruited for the Statistics Unit to develop appropriate data analysis formats and provide meaningful interpretation of available statistics.
- c. Regional and central level positions should be established for data entry personnel, which are commensurate with the knowledge and skills required and which provide remuneration adequate to ensure the retention of qualified staff.

- d. If the MOH intends to pursue decentralization, four Regional Information Officer (RIO) positions should be created and filled as soon as possible.

5.4. Short-term HIS Training

- a. On-going in-service training for regional as well as MOH HIS personnel should be provided. Such training should include:
 - data verification, (A system of range checks might be set up to flag some erroneous reporting.)
 - dBASE III and troubleshooting,
 - elementary applied statistics (for central MOH Statistics and Planning personnel).
- b. Monthly meetings for the HIS data entry personnel should be organized to facilitate the opportunity to learn from each other and to provide mutual support.

5.5. Development and Integration of Additional HIS Applications

- a. The MOH should create a HIS committee at the central level to: (1) to oversee the development, integration and utilization of the HIS, and (2) to develop appropriate supervision structures for statistics staff.
- b. The HIS should be revised to include regular reporting of selected routine data from the malaria and bilharzia programs.
- d. The MOH should institute the publication of a quarterly newsletter with the interpretation of key information and items of interest to a wide range of health service personnel and other interested users.

5.6. Software

- a. Local expertise and familiarity with the current MOH system should be developed to provide support for HIS system modifications and troubleshooting.

5.7. Hardware

- a. A computer system should be relocated to the Personnel Office to facilitate the updating of the Personnel Inventory which is several months out of date. Steps should be taken to protect the confidentiality of the individual files.

- b. At least one backup computer system should be made available at the center to loan to regions when regional systems require repair.

5.8. Data Analysis, Interpretation and Reporting

- a. Supervision from an epidemiologist is needed to provide assistance with data analysis.
- b. A smaller number of key indicators should be focused on for routine reporting, graphic presentation and interpretation.
- c. At the central and regional levels, priority should be given to working with the HIS databases presently available, focusing on a few selected indicators, developing facility with interpretation of tables and graphs and learning to ask appropriate questions.
- d. Data from each reporting unit should be used during clinic supervision to identify problems, provide feedback to clinic staff and compare the performance of individual clinics.
- e. Catchment area populations should be estimated on the basis of the recently published 1986 census data if resources are available.
- f. The MOH should seek to collaborate with the Central Statistics Office to obtain assistance with data analysis, establish catchment area populations and incorporate key health indicators in national statistical summaries. Collaboration with other Ministries, such as Agriculture, Education, Local Government and Justice should also be sought to promote greater use of available health data.

1. INTRODUCTION

The Swaziland Primary Health Care Project (PHCP) (USAID Project No. 645-0220) was authorized in August 1985 for a five-year period with USAID grant funding in the amount of \$5,700,000 and a total project cost of \$7,945,000, including the contribution from the Government of Swaziland (GOS). The Project has been implemented in cooperation with the MOH of the Kingdom of Swaziland through a contract with the Management Sciences for Health (MSH) of Boston, Massachusetts, and a sub-contract with the Charles R. Drew University of Medicine and Science (Drew).

The goal of the Project was to assist the MOH in increasing the effectiveness of primary health care workers, particularly in maternal and child health areas. The Project also aimed to support the MOH in its efforts to decentralize health planning and management to the regional level.

The Project was scheduled to terminate on December 31, 1990. A six-month extension has been agreed to with one member of the TA team remaining in the country until the Project closeout date of June 30, 1991. This increases the total Life of Project (LOP) grant funding to \$6,288,000.

A mid-term evaluation (MTE) of the Project was conducted in September/October 1988. The end-of-project evaluation reported in this document was carried out by a team of four short-term consultants during October 1990. The consultants included a public health physician as team leader, a health training specialist, a health information specialist and a nurse/midwife. The team was instructed by USAID/Swaziland to focus its evaluation on the period following the MTE in 1988. In particular, it was asked to assess the impact of the Project on Swaziland's PHC system and appraise the sustainability of Project achievements.

2. BACKGROUND

2.1. Swaziland: The Country and its Health Status

The Kingdom of Swaziland, the second smallest country in Africa, shares its northern, western and southern borders with South Africa and its eastern border with Mozambique. Its 17,364 square kilometers are divided into four distinct agro-ecological regions, each of them running roughly north to south. The country's development since independence in 1968 has been greatly influenced by its proximity to South Africa. The main export products are sugar, wood, pulp, citrus and asbestos, leaving Swaziland highly vulnerable to the fluctuations of international markets. The economic growth rate averaged 4.7 percent during 1985-1988. The GDP per capita was calculated at \$759 in 1988; however, the distribution of wealth appears to be skewed.

The Swazis are a strikingly homogenous people with a common language, culture and history. The 1986 population census calculated the resident population at 681,059, with a further 31,072 residents abroad, mostly migrant workers in South Africa. Infant mortality is estimated at 100 per 1,000 and maternal mortality at 107 per 100,000 live births. Life expectancy at birth at 53 years is the lowest for all southern African countries. The growth rate has averaged 3.4 percent per year, one of the highest in the world. Over half of the total population is under 15 years of age. The literacy rate is estimated to be about 65 percent.

The percentage of girls in school is just under 50 percent. Approximately 85 percent of the people live in rural areas in dispersed homesteads, in homes and on land belonging to a kinship and under the authority of a chief. Each chief's area falls under one of 40 Tinkundla (regional councils of chiefs). This structure of central authorities using the tinkundla to communicate with the chiefs, who in turn communicate with their people, was formalized by the late King Sobhuza II in the 1940s.

The Family Health Survey (FHS), done through the PHC Project in 1988, was the first national survey of overall health status of children and adults. It was intended as a baseline for future health planning, and included a sufficiently large sample size to permit urban-rural comparisons and regional estimates. While the FHS failed to obtain reliable information on infant or maternal mortality, it yielded a wealth of valuable new data on maternal and child health, family planning, adult health and health facility utilization.

The estimated total fertility rate (TFR) was found to be 5.0. The average desired family size for women was 4.2, while male desired family size averages in all areas were much closer to the actual TFR for the area. Surprisingly, 17 percent of all women reported current use of contraception, with use over twice as prevalent in urban as in rural areas. This was four times higher than had previously been estimated. However, only 19 percent of the women who were in need of family planning services had ever used contraception, while 56 percent desired to do so. This suggests that the level of contraceptive use in Swaziland could increase rapidly, if service programs were organized to meet the need. However, Tom Fenn, a researcher at FLAS, believes that the data on "women in need of FP" was overestimated, because it includes women who abstain, who are not living with their husbands, who are not sexually active or who are amenorrheic.

The FHS found considerable improvement in immunization coverage when data were compared with earlier findings from the 1987 WHO/EPI "Standard 30" Cluster Survey. Among children 12-23 months of age, 94 percent had had BCG, 84 percent at least the three doses of DPT,

78 percent the three doses of polio antigen and 65 percent were already immunized against measles. Over 90 percent of women had been immunized against tetanus during their last pregnancy. These rates are high compared to other developing countries.

The Family Health Survey also included questions on some key behavioral risk factors. Smoking was found to be much less prevalent among women than men, with only 3 percent of women having ever smoked, compared with 25 percent of the men. Findings related to alcohol consumption were similar. Knowledge about AIDS was high among all groups of respondents. However, misinformation about the modes of transmission was considerable. Almost 30 percent of urban males reported having ever had an STD; however, nearly 50 percent of the males (and 35 percent of the females) interviewed did not consider themselves as being at risk of AIDS at all.

Facilities utilization data indicated that government clinics were most commonly used, with 38 percent of all households reporting at least one visit, followed by government hospitals, with 29 percent. Traditional healers had been visited at least once by 22 percent of all households. This may have been substantially underreported in face-to-face interviews such as were done for the FHS. Earlier data from 1982 found that 80-85 percent of Swazis from all socioeconomic groups had used traditional healers.

2.2. The Primary Health Care System in Swaziland

The principal service provider in Swaziland is the government with four general and two specialty hospitals (mental and TB) and four government health centers. The various Christian missions operate two hospitals and one health center. Five small hospitals are operated by industries and one health center privately owned.

Most PHC work takes place in rural clinics and outreach sites, run by the government, missions and private industry. In 1988, there were said to be 113 clinics and 111 outreach sites. There do not seem to be clear distinguishing differences between a clinic, a health center or a hospital. The clinics visited by this evaluation team ranged from a remote clinic being operated by only a nursing assistant to a company-run mini-hospital, which has a physician, in-patient facilities, and operates 21 outreach sites. Sometimes two separate documents from the MOH refer to the same facility under different headings. According to a 1985 estimate, 70 percent of the population lives within five miles of a PHC service delivery site.

Rural Health Motivators (RHMs) function on a part-time basis as the link between the community and the health facilities. The rural clinic, staffed with one staff nurse-midwife and one nursing assistant, is the first-level fixed facility. It offers MCH/FP services, immunizations, nutrition and health education. The staff are also expected to diagnose and treat whatever diseases people

show up with and to refer patients, as necessary. Some clinics include an additional small maternity. If a second staff nurse has been posted there, maternity services can be offered. The standard clinic hours are approximately 9-5, Monday to Friday, and often 8 or 9 to noon on Saturday. The clinics charge a standard fee of one lilangeni for curative visits; MCH visits are free.

Each health center has between 24 and 30 beds and is staffed with at least one doctor, in addition to the nursing staff. It provides PHC services similar to those provided by the clinics, general in-patient care, basic laboratory services, and acts as a first referral facility. It is also supposed to supervise the clinics in the area. The regional hospital is the referral center for health centers and clinics, and the location for some specialty services.

There are seven public health units (PHUs) which provide PHC services in urban and semi-urban areas, serve as the base for outreach sites and provide the work station for the Public Health Nurse Supervisor.

Outreach sites are simple structures, usually built by or with labor from the community, at locations to serve people who live far away from clinics. Nurses from PHUs go there with supplies according to a regular schedule (usually once a month) to provide PHC services.

While the MOH is charged with the task of national policy formulation and coordination of service activities, regional health planning and management is the responsibility of the Regional Health Management Teams (RHMTs). The RHMT is chaired by a Regional Health Administrator (RHA), and includes senior medical doctors and hospital matrons, regional public health matrons and clinic supervisors. Both government and mission health facilities are represented in the RHMT.

In April 1990, GOS health services (outside the MOH headquarters) had 37 establishment posts for medical doctors; 14 of them were in the Mbabane Hospital. It was reported that several of these posts were vacant. The establishment for government hospitals, health centers, clinics and public health units included 444 posts for nursing sisters and staff nurses and 195 posts for nursing assistants. The three main government hospitals: Mbabane Hospital and the Mental and TB hospitals in Manzini, had 37 percent (164) of the trained nurse posts and 25 percent (48) of the nursing assistant posts. Clinics had 18 percent (81) of the trained nurse posts and 25 percent (48) of the nursing assistant posts, while the figures for the Public Health Units were 11 percent (48) and 13 percent (25), respectively. Except for two hospitals, no data on staffing of mission facilities or on the total number of vacancies were available.

Each region is supposed to have a Regional Public Health Physician plus a Senior Medical Officer, posted in the hospital. In practice, some of these posts are vacant or were not established because the region's main hospital is operated by a mission. Furthermore, the job descriptions and lines of communication of these two medical doctors are reported to be unclear.

The most recent figures for actual PHC expenditures are for FY 1987/88. Of total MOH recurrent expenditures of \$8,853,600 (E22,134,000), 17.1 percent were directed towards PHC preventive care. The FY 1988/89 budget directed 18.3 percent to PHC activities; 19.3 percent was budgeted for FY 1989/90 and 20.3 percent for the current fiscal year. At the time of this evaluation, data on actual expenditures for PHC were not yet available for FY 1988/89 or 1989/90.

2.3. The PHC Project

The Swaziland Primary Health Care Project commenced in April 1986. The Chief of Party (COP)/Health Management Associate arrived in country the following month. However, shortly after his arrival USAID issued a stop work order until the GOS met the Project requirements of creating additional MOH posts, considered critical to the success of the PHCP. The stop work order was lifted in August 1986, and the remaining three team members (MCH Physician, Family Nurse Practitioner and Health Planning and Budgeting Associate) arrived in September 1986.

The original project design was very ambitious and unfocused, resulting in considerable misunderstanding about the goals and scope of the Project. The first workplan was approved in January 1987, but only seven months later, the MOH requested an operational review of the Project. The workplan was revised on the basis of this review in December 1987, and again in June 1988. The mid-term evaluation (MTE), conducted in September/October 1988, recommended that Project activities should be further streamlined and prioritized. It identified clinic-based and outreach services, decentralization, planning and budgeting, and the health information system as deserving the highest priority in future Project work. A program results audit conducted by USAID in January 1989 also recommended that the Project be scaled back and focused on priority areas.

A number of modifications were made in the Project workplan. The focus shifted from improving national-level health sector infrastructure to strengthening service delivery at the regional, clinic and community levels. The revised workplan was divided into three areas: (i) clinic-oriented project activities, (ii) management-oriented activities, and (iii) other project activities. Several Project components were scaled back or eliminated, including environmental health, bilharzia control, child survival activities (such as EPI, ORT and ARI, which were already covered

by other vertical programs), school health (except for work with clinic nurses), health education at the national level, communications, and central TA in health planning. Training activities were transferred to the clinic level; support for hotel-based, in-service training was reduced and short-term overseas training curtailed.

From the beginning, the Project activities have been impeded by a turn-over of staff among MOH, USAID and Project personnel. The GOS MOH is very thinly staffed and the availability of counterparts was clearly overestimated. The lack of suitable counterparts and the departure from the MOH of some key staff members who had been counterparts has been a severe constraint. None of the current USAID/Swaziland staff members were involved in the original project design. Staff changes among the Project personnel included the departure of three of the original Project staff members and the change in the Chief of Party, all occurring during the first half of the Project's life, and one more staff change in the beginning of 1990. The mid-term evaluation noted a weakness in planning and coordinating team activities in the field.

3. METHOD OF EVALUATION

The scope of work of the evaluation is shown in Appendix 1. The team was to assess whether the Project has succeeded in institutionalizing critical PHC program functions into the Swaziland health care system. In particular, it was asked systematically to observe clinic-based nurses and nursing assistants, to appraise their clinical skills and to evaluate the impact of the clinic-based training. Finally, the team was expected to review the quality and quantity of PHC Project inputs and to determine whether they and the absorptive capacity of the MOH had been adequate to reach the end-of-project status indicators. The scope of work did not cover internal project financial reporting, which had been raised by the USAID auditors in 1988. USAID/Swaziland requested that the team focus its evaluation on the period following the MTE.

The team met for a day with staff in the headquarters of the contractor (MSH) in Boston, MA. The meeting included the Project Management Associate, who had just returned from Swaziland. This was followed by a visit to the sub-contractor, (Drew) in Silver Springs, MD. While in the Washington, D.C. area, the team also met with Mr. Alan Foose, previously the USAID/Swaziland HPN Officer. Upon arrival in country, the team was briefed by USAID/Swaziland and the PCHP team members and provided with documentary material.

The team spent the first week in Mbabane. Interviews were conducted with PCHP staff and their MOH counterparts, USAID officials responsible for the Project and others with knowledge and

insight about it and the concerns it is attempting to address, such as the delivery of PHC services in Swaziland, health training, decentralization, HIS, etc. A wide variety of papers, documents and reports were reviewed.

During the second and third weeks, the team travelled to all four regions to interview members of Regional Health Management Teams (RHMTs) and to observe the operation of the HIS system. The PHC system and the Project's contributions to it were studied extensively, with particular emphasis on the two regions, Shiselweni and Lubombo, where the Project has concentrated its inputs since the MTE. During field visits to these regions, the team members interviewed nurses and observed care being provided at PHUs, health centers, rural clinics and outreach sites. A group of women of childbearing age was convened at one outreach site for a discussion about their perceptions and expectations regarding maternal and child health care. The team also visited several of the hospitals which serve as referral centers for the PHC system. Two of the team members observed a refresher course for RHMs and attended one complete day of the 5-day, clinic-based training course.

Several constraints to the team's evaluation should be noted. Because of turnover of staff, none of the current USAID/Swaziland officials were involved in the original Project design. The official currently responsible for the Project had been Project Officer for only two months when the team arrived, and the interview with his predecessor in Washington, D.C. was necessarily brief. Key positions in the Project itself and at the central MOH and in the regions were vacant at the time of the team's visit. The Management Associate had finished his contract and left Swaziland. The team met with him in Boston and conducted a telephone interview with him later. The Undersecretary of the MOH had been called to special duties. Since he is a very important official in the Ministry, a lunch meeting with him was arranged; the team regretted not having the opportunity to hold more extensive discussions with him. The positions for the Senior Health Administrator and one of the four Regional Health Administrators were vacant. Another RHA was out of the country, and the Health Statistician left for overseas studies a few days after the team's arrival in Swaziland. The Public Health Matron at the central level had recently retired and all four regional Public Health Matrons were studying overseas in Botswana.

4. TRAINING

4.1. Training Impact

4.1.1. Definition and Role of Training

Training creates sustainability in development projects and multiplies many of the contributions from health/development efforts. In addition, health workers require regular upgrading of their skills and knowledge through in-service training.

A coherent national training policy and plan gives direction to and sets standards for all training activities. The evaluation team sought to determine the existence of such a policy and plan in Swaziland. The statement developed and approved by the MOH Training and Personnel Management Committee in October 1984 is referred to as a "training policy," and is written down in the Regional Personnel Management Policies and Procedures Manual. However, it deals only with routine procedures for release of personnel for training, and fails to provide comprehensive guidelines for training coordination and development.

A "National Planning Workshop For In-Service Training" was held in August 1990. The expected outcomes of that gathering would suggest that substantive issues of policy and planning would have been discussed, with recommendations greatly affecting gaps in the present "training policy." The report states that the actual adjustments to policies were few. It does, however, recommend that a pre-service training plan be prepared by the Training Office of the MOH.

4.1.2. Coordination and Implementation of Training

The MOH, at its highest level, is concerned about establishing an effective coordination mechanism for training activities. The Principal Secretary, in his opening statement to the 1990 national in-service workshop argued for the implementation of a rational and systematic training coordination process where the priority would be given to the country's needs, and training then be based upon those needs, rather than on what donors are interested in funding.

The development of a coordinated training process within a country requires the establishment of several critical elements of a training system. Besides a national training policy and plan, these should include an office designated to coordinate all health training efforts. Such an office should be staffed with training specialists who can provide leadership in key areas, such as analyzing and defining training needs, developing objectives, and planning, validating, conducting and evaluating training. The MOH Training Office appears to operate without a clear mandate, policy or strong leadership, and the PHCP staff has never included a full-time professional trainer.

According to the decentralization plan operating in Swaziland, the responsibility for implementing the in-service training program theoretically lies with each individual region. Our visits to three of the regions did not find this always to be the case, except in the RHM training program.

4.1.3. Problems and Constraints of Health Training

The problems of health training have been outlined by the Principal Secretary in his speech, referred to above, and by J. Bazilio in two PHCP-funded consultancies. The Principal Secretary spoke of his concern for current MOH practices in the area of selection, utilization of personnel once they have completed their training, and monitoring and evaluation of the training received. Bazilio, in her 1989 report on in-service training, stated:

The problem as identified by the MOH was as follows...a proliferation of formal in-country courses, the excessive amount of time spent away from the clinic in training, and the absence of a systematic and adequate follow-up to training.

Bazilio identified several major constraints to effective health training. These included:

- the capacity of the MOH to utilize trained personnel and place them appropriately (especially long-term trainees trained overseas);
- the ability of the MOH to fulfill the training needs in light of identified manpower shortages;
- funding for training as projects end and donors leave; and
- the ability of the MOH to release personnel for required training.

The Bazilio report contained a series of recommendations to solve most of the problems in the conduct and management of PHC in-service training throughout the country and could have been used as the basis for the development of a national training policy. There is no evidence that it has been used either by the GOS or even within the PHCP itself as a guide to action.

4.1.4. Training Needs Assessment

The health priorities to be addressed by training through the PHCP were defined by the project document. A comprehensive training needs assessment, which should have included an assessment of training needs from the community perspective, was not done by the PHCP team. Instead, the Project utilized the training needs assessments which had been conducted by the vertical programs as the basis for designing its in-service training program. In her report, Bazilio offered an outline and scope of work for a thorough training needs assessment, but unfortunately, her recommendations were not adjusted for the realities in Swaziland.

4.2. Categories of Training

4.2.1. Out-of-Country Training

The PHC project sent a total of 57 people for training in other countries at a cost of \$248,700. (See Annex 5.)

Out-of-country training is expensive. Along with the costs of sending persons abroad there is the risk of losing the investment and the trainee. It is not possible to make a final assessment of the long-term overseas training supported by the PHCP, because most of the trainees have only recently returned and one will not return until next year. Three of the four persons seeking to utilize their recently received degrees in Health Education (2 BA degrees and 2 advanced diplomas) have been waiting for several weeks in Mbabane for office space and housing in the regions where they are to serve.

There are possibilities for positive benefits for the future of primary health care nationwide if each of the trainees' newly acquired skills are utilized. It has been reported, however, that some of those sent for overseas training are close to retirement and thus will not be able to provide the sustained leadership that younger persons could have given. Out-of-country training should be seen as an investment for future leadership and not as a reward for service.

4.2.2. Regional Clinic Based Training

4.2.2.1. Training Process

CBT's origin and rationale is described in the Final Report on PHC Training Activities in Lubombo of April 1990:

The clinic-based training programme is an answer to suggestions which were put forward during the mid-term evaluation and the audit of the Primary Health Care Project. It also responds to a stated request from the Ministry of Health to have more practical on-site training. On-site training disturbs less the on-going curative and preventive activities in the clinics and has a more direct impact on the attitude and practice of the nurses/nursing assistants towards their patients.

A total of 97 nurses and 50 nursing assistants have been trained through 15 courses in Lubombo and Shiselweni; training is continuing in Hhohho. The Manzini region CBT courses will be held during the next six months, beginning in January 1991. Outputs of the CBT also include six regional PHC trainers per region whose training was found to be impressive. They have been given training methods experience using PHC topics. This has included ARI, ORT, EPI, ANC, growth monitoring, breast-feeding promotion, nutrition, health information systems (HIS) and clinic management.

4.2.2.2. Assessment of Training

A visit to the Hhohho Regional Training site at the Emkhuzweni Health Center by two members of the evaluation team included a full day of observation of the week-long course. Interviews were conducted with the regional trainers. Nine nursing assistant trainees were observed as they participated in a variety of learning activities, which were interactive and provided actual practice with ANC patients. An active discussion of problem cases, led by the trainees, indicated that the NAs had a keen sense of the significance of their improved skills.

The evaluation team discussed the impact of CBT on clinic performance with nursing staff and observed their performance at clinics, health centres and hospitals. The nurses spoke with enthusiasm about the course. They were seen to be utilizing specific skills learned in their CBT training, such as setting up "ORT corners," screening for ARI and implementing ANC procedures. (A more thorough discussion of the clinical impact of CBT can be found in Section 6 of this report.) Not all the nurses observed had taken the CBT course, and it cannot be concluded that CBT was solely responsible for their performance.

The content outline of CBT is presented to the trainees prior to each training event. This currently serves as both the syllabus and curriculum outline. Having the outline available to trainees and trainers alike makes training more uniform nationwide. It is unlikely that CBT could even continue without these elements. A CDC Training Consultant, Annie Voigt, commented on the training content, methodology and structure of CBT in August 1990. She based her critique on the observations of the PHCP team members and gave specific examples of how CBT could be improved. For example, in addition to textual changes to the CBT modules, she challenged the scope and amount of material to be covered. However, discussions at the regional and central levels of the MOH revealed that lengthening the training program from one week was not realistic.

4.2.2.3. Scope for Improvement

The present CBT modules booklet is an excellent first effort, designed in a flexible manner to encourage continuous upgrading. It is, however, still mainly a collection of hand-outs to supplement or enrich the CBT, rather than a proper "module", i.e. a self-contained segment of sequenced training tasks. Further refinement of the CBT modules booklet could be accomplished in-country with Swazi participation. If necessary, instructional designers could be made available from other sectors, such as education, or agriculture.

All categories of nurses are currently trained in the same CBT course, which was initially designed for staff nurses. Some of these trainees have never been trained in basic antenatal care, and

the level of readiness for learning is markedly different between staff nurses and nursing assistants. While NAs are frequently forced to do the work of the nurses because of staff shortages, providing an identical curriculum to both categories of staff may not always be the best policy.

Sustaining the momentum of CBT would be enhanced by a systems design which would itemize the training role of each of the institutions related to service delivery at all levels. Attention to a systems approach could assure the participation and utilization of CBT by a number of eligible institutions, most notably the preservice nursing schools. Nursing schools should be requested to conduct a thorough review of the need, goals, content and methods of the CBT training program.

The PHCP has made some attempts to coordinate its in-service training with nursing schools. It did, for instance, provide assistance to the design of a national EPI manual to be used as a referral manual for all in-country pre- and in-service training.

Finally, the evaluators are concerned about some recent developments in nurse training. The GOS nursing school, the Institute of Health Sciences (IHS), is seeking to become a faculty in the University of Swaziland. This would upgrade nursing into baccalaureate level. There is already an acute shortage of nurses, especially in remote rural areas. What would be the effect on staffing the clinics in the underserved rural areas if nurses are to become even more academically oriented?

4.2.3. Regional Workshops

Seventeen health programs or institutions are commonly referred to as "vertical programs" in Swaziland. Shipp in his 1990 consultant report grouped them in nine categories and excluded several which he did not consider "vertical programs" (e.g. Mbabane Hospital). Even if the number of vertical programs is reduced to nine, this amount of activity, operating concurrently in a country the size of Swaziland, has produced inordinate pressures on health personnel and the health-care delivery system.

A very visible manifestation of the pressures have been the numerous workshops offered each year. The evaluation team was informed in several interviews that the word "workshop" has become pejorative because of its overuse. It was further reported that maintaining the motivation and interest of learners who have attended many workshops has been a problem, that attendance at workshops has interfered with service delivery, and that hotel-based training has sometimes been seen as a reward or vacation from the drudgery of clinical service.

In the beginning of the Project, the PHCP team organized training through workshops. The MTE recommended that this hotel-based workshop format be replaced by more individualized, clinic-based training. The alternative training mode, the CBT, was proposed by the PHCP and accepted by the MOH. The total of national and regional training events that the PHCP has sponsored since 1986 numbers 120. They are listed in Annex 6.

4.3. Selection of Trainees and Trainers

According to the MOH Regional Personnel Management Policies and Procedures Manual, applications for in-service training can be made as personnel become aware of these opportunities to upgrade their skills.

The MOH Training Officer stated that decisions on out-of-country training are primarily made by the Regional Health Management Teams (RHMTs). However, interviews with key personnel in three of the four regions revealed a lack of knowledge of these procedures as well as a lack of awareness of the selection process for in- and out-of-country candidates.

The discussions with health staff revealed that some nurses had attended several training events, while others attended only one or none at all.

4.4. Achievements

The training-related EOPSeS foresaw sustainable, competency-based training strategies, which would include mechanisms for on-going training needs assessment and systematic monitoring and evaluation of training, and which would result in more productive, better skilled and motivated health workers.

While progress has been made in all of the areas, covered by the EOPSeS, an analysis of the key issues of training policy, planning, systems design and integration with other related institutions and sectors revealed a performance which was less than expected. The PHCP training component has had to be carried out within the limits and under the conditions which exist within the MOH. These conditions have severely limited the accomplishments of the training component.

The replacement of hotel-based training by CBT has been a notable achievement. Morale and self confidence among trained staff seem to be high, and nurses were observed to be performing in accord with the training received. While progress has clearly been made, staff limitations in the MOH training unit have prevented the MOH from formally evaluating this program in detail. Similarly, the lack of a clear role statement and full-time positions for clinic supervisors has hindered their ability to participate in training follow-up.

4.5. Recommendations

- a. The MOH should formulate a national training policy and plan. A professional training consultant could assist in surveying relevant MOH and PHCP reports and documents and in modifying their findings to fit the realities of personnel conditions within the MOH. The training policy and plan should be reviewed by the MOH for final approval and implementation.
- b. The MOH should formulate a workplan stipulating the duties and responsibilities of the office of training coordination.
- c. A draft training system design for PHC training should be prepared for consideration, approval and implementation by the MOH. A professional training consultant could also assist with this activity.
- d. If the MOH continues with CBT, the Training Modules should be revised observing the principles of standard modular instructional design. This process should utilize Swazi personnel. Training materials and curriculum development specialists could be utilized from other sectors as needed.
- e. To free his energy and time for other Project areas, the PHCP MCH Physician should progressively hand over CBT training duties to Swazi training staff during the remainder of the Project, while the training for an initial group of personnel from all four regions is completed.

5. CLINIC SERVICE DELIVERY

The clinic represents the front line of preventive, promotive and curative health services in Swaziland and is the principal focus of the MOH's emphasis on primary health care. The underlying purpose of virtually every aspect of this project is to increase the quantity, quality and effectiveness of services provided to Swazi citizens through the primary health care facilities, especially rural clinics. Thus, the evaluation team devoted considerable time and attention to assessment of the care currently being provided in a sample of PHC facilities, including rural clinics in two of the four regions of the country. This aspect of the evaluation was conducted primarily in Shiselweni and Lubombo, which are the only two regions where the PHCP clinic-based training has been completed. In addition, they are the regions which have had concerted PHCP inputs directed at the improvement of clinic management and nurses' housing. The post-midterm evaluation strategy of the PHC Project has been to provide the clinic-based training and other clinic-level inputs to one region at a time

during an intensive four-month period of training and follow-up. Hhohho Region is in the middle of that four-month sequence now; Manzini Region will receive the training and a less concentrated package of other clinic inputs during the six-month extension of the Project, when all but one member of the senior PHC Project staff will have left the country. Shiselweni and Lubombo, therefore, provided the best opportunity to observe the effect of the Project's inputs on the performance of the PHC delivery system in rural areas.

The original Project Paper (PP) focused the attention of the Project on eight specific components of maternal and child health care: prenatal care (with emphasis on developing a system for identification, care and referral of high-risk pregnancies), attended deliveries, post-partum education, immunization, oral rehydration therapy (ORT), child growth monitoring, child spacing, and treatment of infectious, parasitic and lower respiratory diseases. The PP established quantifiable EOPS targets in each of those areas and described changes that would need to occur in order to achieve those objectives. The PP also called for a number of other clinic-level improvements, intended to facilitate the productivity of clinic staff by 1990. These included more frequent and more positive supervision of clinic nurses, better living conditions for the nurses and changes in clinic management.

The MTE concluded that the project's activities and resources were not capable of achieving some of its long-term targets (EOPS indicators), although there had been progress in child growth monitoring, ORT, immunization, and antenatal risk screening, and improvements in the system for providing clinic supplies. Progress towards the other objectives had not been adequate. The evaluation also noted that the PHC Project EOPS indicators for the eight service delivery areas were ambitious and identical to the MOH's operational objectives for the five-year project period (1985-1990). Since the MOH and several other donor-supported projects were working towards the same long-term objectives, it was not possible to attribute progress towards its EOPS to the PHC Project itself.

Following the MTE, the project contract was revised; the measures of goal achievement were made more general (e.g., "15 percent decrease in under-five mortality" was changed to "decrease in infant and under-five mortality") and the EOPS indicators were changed from service delivery targets (e.g., 90 percent of pregnant women have at least one prenatal visit") to achievements related to the project's workplan (e.g., "establish 49 new outreach sites).

The only quantifiable service delivery EOPS in the revised project contract is to increase utilization of MCH/FP preventive and curative services at clinics and public health centres by at least 25 percent. The specific services or service statistic base to be increased was not specified.

The MTE also recommended that the project reduce its efforts towards activities which are supported by other donors or by USAID through other projects, i.e., immunization, ORT and acute respiratory infections of children, all of which are covered by the USAID-supported Combatting Childhood Communicable Diseases (CCCD) Project. At the same time, the project was directed to increase its efforts to improve clinic management and outreach services, such as working with chiefs and other community leaders; directing and supervising the work of RHMs; making home visits; and providing community-based health education (see revised PP, p. 6); to expand the number of clinic outreach sites; to purchase 4-wheel drive vehicles for use by the regional nursing supervisors and to provide modest furnishings to improve the accommodations for nurses who work in rural clinics. The current Chief of Party (COP) for the Project informed the evaluation team that the Project was later directed by USAID to eliminate its emphasis on health education, involvement with community leaders, and supervision of RHMs, the latter of which was taken over by a project supported through UNICEF.

This section of the report describes the work of the PHCP since its mid-term revision within the context of a discussion of the current performance, problems and achievements of the primary health care system as observed by the evaluation team during visits and interviews conducted at rural service delivery sites in Shiselweni and Lubombo regions. (See Appendix 2 for information on which rural facilities were visited.) Accomplishments of the Project prior to its MTE and Project achievements in relation to EOPS indicators are also summarized within the context of a broader discussion of specific aspects of current PHC system performance.

5.1. General Observations on the Preparation and Performance of Rural Clinic Nurses

Full staffing for a rural clinic usually includes a Staff Nurse (SN), Nursing Assistant (NA), and orderly (male general service worker). Staff nurses have overall responsibility for running the clinic and for making decisions regarding the care of patients. When clinics are adequately staffed, the NA's role is to implement the staff nurse's decisions, e.g. to dispense drugs prescribed by the SN.

Almost all of the SNs are actually nurse-midwives, i.e, they have had an additional year of training to prepare them as midwives. SNs are trained in one of Swaziland's two schools of nursing -- the Nazarine Nursing School, which is affiliated with the Raleigh Fitkin Memorial Hospital in Manzini, and the Institute of Health Sciences (IHS), which is located in Mbabane and is operated by the MOH. The Good Shepherd Hospital in Siteki operates the country's only school for the preparation of NAs.

5.1.1. Staff Nurses (Nurse-Midwives)

Applicants for admittance into the two staff nursing schools must have 12 years of basic education and good grades. Since more young women apply than can be accepted into the schools, entrance into the educational programs, and thus the profession, is competitive and selective.

Cursory review of the programs provided by these schools reveals solid, well-designed, three-year curricula which include adequate opportunity for supervised clinical experience and emphasize theory and practice in support of the prevention and health-promotion components of primary health care. Preventive/promotive health care is featured at every level of the curriculum; students conduct home visits and focus on the community during their final year. After completing the three-year basic nursing course, most female nurses go on to take a fourth year of midwifery. Newly graduated staff nurse-midwives are assigned to hospitals, where they are supervised and can learn from physicians and more experienced nurses for at least three years before their first assignment to a rural clinic.

With assistance from American nursing education advisors, both of the basic pre-service staff-nurse schools are interested in enhancing the professionalization of nursing in Swaziland, especially by increasing the academic preparation of their faculties and achieving university affiliations.

Staff nurses encountered in the field appeared confident and generally well-prepared for their role in preventive and promotive health care. Most seemed to be hard-working and committed to the welfare of their patients. Patients were treated in a friendly, respectful manner; no instances of rude or arrogant behavior were observed. Most SNs exhibited good communication skills; many included health information or specific instructions in their interaction with patients.

5.1.2. Nursing Assistants

The curriculum of the country's only program for preparing nursing assistants was not reviewed. It began as a one-year program in the 1970s. The curriculum was later increased to 18 months and has been two years in length since 1980. There is an attempt to bring graduates of the earlier, shorter curriculum back for additional training. Current applicants to the NA school must have completed 12 years of basic education; however, it is not necessary for them to have achieved as high grades as are required for entrance into the staff-level nursing schools. At an earlier time, only 11 years of basic education were required.

The changing (increasing) educational standards for NAs seem to be reflected by significant variation in the performance of NAs encountered in the field. Some of the younger ones are bright, eager learners who are competent in their roles. Some of the older ones are less well prepared.

5.1.3. Two Major Problems

Two major but general problems related to the role performance of clinic nurses are (1) deficiency of even the staff nurses' preparation and skills in the area of curative out-patient care, and (2) the need for NAs to assume responsibilities for which they have not been trained when there is no SN at the clinic.

Although most staff nurses seem prepared for their role in the preventive/promotive aspects of PHC, their basic education and hospital experiences do not systematically and adequately prepare them for their role in the diagnosis and treatment of disease.

In order to prepare nurses for this role, a program to train nurse practitioners (NPs) was started at the IHS in 1981. It was discontinued last year because of a shortage of doctors and appropriately skilled nurses to serve as faculty for the program. A similar course at the Raleigh Fitkin Memorial Hospital was discontinued because of MOH concerns that it duplicated the IHS program. Approximately 100 NPs were trained through these two programs. Evaluation of the IHS course was positive; the NPs were found to be confident, safe practitioners who are able to work independently with infrequent supervision. At the time of that evaluation, most of the NP graduates were employed in rural clinics. They were satisfied with their preparation but unhappy that their extra training and skills had not been rewarded by any increase in their position and/or pay. In addition, some were concerned that because of their skills they would always be assigned to rural clinics.

The need for NAs to fill in for staff nurses arises because of the overall shortage of nursing personnel (see Section 6.2) and because, even with full staffing, it is necessary for the SN for have some off-duty time. The need for NAs to perform functions for which they are not trained has been of concern throughout the life of the PHC Project. One response to that concern has been the current MOH policy that clinic SNs can take only one week-end off per month. Although that policy reduces the time during which clinics are without an SN, it must also increase the sense of hardship and deprivation associated with rural clinic postings.

5.1.4. Contributions of the PHC Project

The PHCP played a primary role in the development, production and distribution of three reference books for use by clinic nurses -- the Orientation Manual for Clinics, Health Centers, and Public Health Units (published April 1987), the Clinical Reference Manual

for Clinics and Health Centres (published April 1987), and the Clinic Drug Formulary and Handbook (published February 1989). The Orientation Manual contains very general information and details regarding certain MOH procedures and rules, and was intended as an introduction to the MOH bureaucracy. Although available in most clinics, it is rarely used. However, the other two references are of considerable importance. Although each has weaknesses, they directly support the curative care role of the clinic nurse. They constitute large and significant contributions of the PHC Project. None of the above manuals orient a new nurse to her patient-care role in a clinic. There is a need to develop such material in view of the frequent transfer of hospital nurses to clinic settings.

The "Training Modules" produced to support the clinic-based training in Shiselweni and Lubombo regions constitute yet another reference document. It is comprised of five modules -- on diagnosis and treatment of acute respiratory infections, oral rehydration therapy, the expanded programme of immunization, antenatal care and breastfeeding, and child growth monitoring and nutrition. The document contains much of the factual information which is transmitted during the training. Each trainee receives a copy which she keeps when the course is over. This appears to be a much appreciated compendium of directly useful information. In at least one instance, a nurse who attended the course is using her training document to orient a new nurse to her role in the clinic.

5.1.5. Sustainability of PHC Project Contributions

The Clinic Drug Formulary and Handbook and the Clinical Reference Manual for Clinics and Health Centres are official MOH publications. As such, they will presumably continue to be produced and distributed to all clinics. They will eventually need to be updated and revised. In contrast, the Orientation Manual for Clinics, Health Centers, and Public Health Units and the Clinic-Based Training (CBT) Modules document were produced by the PHC Project itself. It is unlikely, therefore, that they will continue to be produced.

5.2. A Serious Shortfall of Nursing Staff to Serve in Rural Clinics

Lack of an adequate number of nurses to serve in the rural facilities is the pre-eminent and most pervasive problem of the PHC system. The original design for the PHC project was predicated on certain assumptions, including that the MOH would assign sufficient and qualified personnel to work in the primary health care system. That assumption was faulty due primarily to an absolute shortage of nurses.

Between 55 and 60 nurses graduate each year from Swaziland's two schools for the preparation of staff nurses. However, about 30% of students at the Nazarine Nursing School are men, and some at the Institute of Health Sciences are citizens of other countries. Most female nursing school graduates stay an additional year to take midwifery training. Perhaps 35 to 40 staff nurse-midwives are added to the country's pool each year, as well as approximately 45 nursing assistants. After graduation SNs are expected to work in a hospital for three years and then to go to a rural clinic for two years.

Although previous cohorts of nurses (today's older nurses) accepted the rural assignments, many young nurses now simply refuse. Although nurses receive their education at government expense, they can reject or leave any assignment and are free to accept positions in any sector of the health care system, i.e., the MOH, missions or companies. Although from the nurses' perspective there are advantages and disadvantages to each of these systems, the shortages are greater, if not limited to, the MOH and mission facilities. More nurses apply than are hired at the one company "clinic" (actually a large health center or small hospital) visited by the evaluation team. However, once a nurse begins to work within a system, i.e., the MOH or a particular mission organization or specific company, she usually stays with that system, unless she leaves the country.

Nurses leaving the country is a major problem. It is said that Swazi nurses can make three times as much money by working in South Africa, and many do; it is an immigration pattern which is common to many sectors of the economy. Although Swaziland receives some trained nurses from other African countries, the net effect is a significant and continual loss of valuable and sorely needed nurses. As a result, there is a country-wide shortage of nurses. Since hospitals have the largest pool of nurses, responsibility for assigning nurses to rural clinics rests with the hospital matrons. In theory, this responsibility belongs to the Personnel and Training Sub-committee of the RHMT. In actuality, however, nurses are posted to the region via the matron of the region's major hospital. Since the hospitals themselves are short of nurses, the matrons are acting against the interest of their own institutions if they assign many (or the best) nurses to work in rural clinics.

The MOH provides no incentives to encourage nurses to work in rural areas. Most clinic nurses work at least five and a half days per week and are expected to be "on call" at their house (located on the clinic grounds) during the other hours except for one weekend per month (sometimes expanded to three days) when they are really "off." Social isolation is a problem for many young, unmarried nurses; married nurses seem more content to live at the clinics with their children, even if it requires separation from their

husbands, which is a common situation in Swaziland anyway. Nurses assigned near their own families' homesteads have the best situation of all (although the performance of the clinic suffers if the nurse is unavailable except during 9-5, Monday - Friday, regular clinic hours.)

A major disincentive is the poor accommodations provided to nurses at many rural clinics. In most cases the housing was built at the same time as the clinic. Sometimes, especially at old clinics, the housing was not adequate to begin with; in other instances it may have once been adequate but has deteriorated because of lack of maintenance. Lack of electricity; lack of running water; lack of basic appliances (i.e., refrigerator and stove or hot plate); small, cramped quarters without a separate room for sleeping, and lack of fencing (necessary to keep goats and cows away from a vegetable garden) are frequent problems. Ad hoc solutions to problems are discouraged, because the Public Works Department (PWD) policies prevent them from maintaining structures built through private means. Although many MOH clinics are located relatively close to schools, in some cases electrical lines brought to the school have not been extended to the clinic.

Neither the clinics nor the nurses' quarters are secure, i.e., with burglar bars and substantial locks and doors. Some clinics have been robbed (of the money they collect in patient fees); and consequently safes have been provided and in some instances securely cemented into the clinic floor. However, the nurses have the keys to the safe; some expressed fears that robbers will break into their homes and force them to unlock the safes.

In addition to these basic inadequacies, many of the nurses' homes need repair -- windows break, roofs leak, doors get out of kilter, or there is insect damage. The PWD is supposed to maintain the houses but is busy with other requests and does not give priority to nurses' homes. In addition, the nurses have not had an effective means to communicate their repair and maintenance needs to the PWD.

There are many inequities in the housing situation, not only in quality but even in whether housing is available at all. In some cases there is competition for a limited number of government housing units and a nurse, or more often a nursing assistant, may not get accommodations at the clinic. Some families have to double up in a single housing unit. Nurses who work at Hlathikulu Hospital get government housing in the town, whereas those who work at Hlathikulu Public Health Unit have to make their own arrangements. Housing at mission-run clinics tends to be better than that provided for nurses employed by the MOH. Nurses who work for clinics which have been abandoned by small mission groups may be in the worst situation, since they have no one to turn to.

Although the standard staffing pattern is one SN and one NA per clinic, actual staffing varies from clinic to clinic. Large, upgraded clinics in more populous areas may have more than this standard, whereas, on any given day some clinics are run by only one nurse or nursing assistant. This usually occurs because one of the nurses posted to the clinic is away for some reason, including training courses, for which nurses may leave their posts for several days to more than a month. An effort is made to temporarily assign a nurse from the nearest hospital to cover empty clinic postings, especially at busy clinics. One clinic visited during the evaluation has been without a regularly posted SN for the past 18 months; it has been run by a NA, and, from time to time a staff nurse from the nearest hospital, each of whom is assigned to the clinic for a one-month period of time. In Shiselweni Region, 9 of the 24 staff nurse posts are vacant at this time. Several new clinics have been built but never opened because of the shortage of staff.

The workload for nurses in some clinics is quite heavy, although, again, there is some variation. Most of the clinics visited during the evaluation were seeing an average of 15 - 35 sick patients (mainly women and children) per week day, plus 15 - 20 children (for growth monitoring and immunizations) and 5 - 8 antenatal and/or family planning patients. This amounts to a total of from 35 - 65 individual patients seen daily at each clinic. In one of the higher volume clinics, two SNs and one NA were seeing patients, and more were waiting to see them when the evaluators arrived at 3:30 p.m.; the nurses told us that they had not stopped for lunch. Several clinics with attached maternity suites (facilities in which women labor and deliver with the SN in attendance) are unused because the SNs feel that they cannot attend births while they are also responsible for seeing 30 or more patients per day.

Despite these hardships, some nurses, and even students, express enthusiasm and preference for working in the rural areas.

5.2.1. PHC Project Inputs

Although USAID has made significant contributions to nursing education in Swaziland, increasing the number of nurses is beyond the purview of the PHC Project. However, the Project has always included a focus on improving the "conditions of service for primary health care providers." The MTE noted the need for incentives such as "acceptable housing" or a salary incentive for rural service, and the revised PP called for "provision of limited furnishing for nurses accommodation." The Project has committed \$35,000 of its budget towards that end; the Clinic Management Associate is working with the regional Public Health Nursing (PHN) supervisors to assess needed repairs to housing at specific clinics. A prioritized list of "needy" clinics has been prepared for every region.

The Project is collaborating in this work with officials of the Planning Unit and has tried to work through regional offices of the PWD in Shiselweni and Lubombo. In Shiselweni, the PWD has participated in assessing the condition of the houses and has agreed and actually started to make repairs, provided that the PHC Project provides the material supplies. In contrast, the Lubombo PWD has been unresponsive to repeated requests for cooperation. Now near the end of the project period and with identified needs and spendable funds, the Project has hired a carpenter to complete a list of specified repairs to nurse accommodations in Lubombo. Important improvements have been effected, i.e., patching a roof, fixing broken doors and windows, repairing walls and supplying simple locks. The identified needs, however, are far greater than the allocated budget. In addition, USAID directed the Project to limit its support to relatively minor repairs. Thus, the project has not been able to replace roofs (an improvement needed in some cases) or to provide things such as burglar bars or kitchen appliances. In addition, the Project does not have clear plans for implementing repairs to houses in the other two regions. As a result of their involvement in these efforts, the Planning Unit is negotiating with the Ministry of Education (MOE) to devise a plan to extend electrical power lines from rural schools to rural clinics.

5.2.2. Sustainability of Project Efforts

The Clinic Management Associate has been working on this issue with a key person in the Planning Unit; she is encouraging him to accompany her on a field trip to learn more about the problems regarding nurses' accommodations. This could be important, since he will continue to be in a position to exert some influence on the Public Works Department. In addition, if he succeeds in obtaining cooperation from the MOE, his plan to extend electricity to the clinics from the schools could be implemented widely. On the other hand, Project inputs to improve nurses' housing have been small relative to the need (and relative to other categories of Project expenditures). The Project has gained attention and improved cooperation from the PWD in only one of the four regions; it tried but was unable to obtain the cooperation of the PWD in Lubombo, and it has not really tried in the two remaining regions. In addition, the cooperation of the PWD in Shiselweni has been contingent on access to supplies provided by the Project. The PWD contribution may end when they run out of free supplies.

5.3. Maternal Health Care

Three of the eight aspects of clinic service delivery which were identified for emphasis in the original PP are part of the sequence of maternal health care -- antenatal care (ANC) with emphasis on identification and referral of high-risk pregnancies, attended deliveries, and post-partum education.

Even before the Project started, at least 90 percent of pregnant Swazi women obtained some form of antenatal care; however, most women did not start care until late in their pregnancies and then went for only one visit. Antenatal care deficiencies noted in the PP included the lack of a protocol or operational plan for ANC, absence of high-risk criteria for referral and follow-up, inadequate tetanus immunization, and incomplete screening and treatment of syphilis. The Project was intended to promote better, earlier and more frequent prenatal care, with more effective identification of complications and high-risk conditions and reduction in the incidence of neonatal tetanus.

The Project was also intended to increase the proportion of births attended by health professionals. Before 1985, when the PP was written, approximately 45 percent of deliveries were occurring in health-care facilities. In particular, it was intended that more of the women with high-risk pregnancies should give birth in a health-care facility.

The third aspect of maternal health care addressed within the original PP was post-partum education in subjects such as family planning, care of the newborn, breastfeeding, and the importance of preventive health care for infants and young children. The PP noted that virtually no post-partum education was being provided in Swaziland at that time.

5.3.1. Progress and Problems Noted at Midterm

Achievements documented by the Mid-term Evaluation (MTE) included the PHC Project's contribution to the design and implementation of the patient- retained antenatal care records (the pink "ANC cards"). These records provide a guide or protocol for routine ANC while requiring the collection of information on risk factors and directing the care provider to refer women with certain conditions for medical assessment and/or hospital deliveries. The Project had also focused on improving screening and treatment for syphilis (in part through improvements to the laboratories responsible for conducting blood tests), had supported research on breastfeeding and analyses of data on cervical cancer screening and maternal and perinatal mortality, as well as providing substantial training.

The PHC Project was responsible for the development and production of yellow RHM cards (to facilitate communication between RHMs and clinic nurses) and white "referral cards" (to facilitate communication between clinic nurses and the health centers and hospitals to which they refer patients).

Concerns identified during the MTE included the lack of infrastructure to effectively deal with high-risk pregnancies, once they are identified; lack of basic equipment (e.g., for measuring blood pressure) in many clinics; lack of facilities and equipment for managing normal childbirth at clinics, and the fact that

nursing assistants often worked without a staff nurse-midwife, and assumed responsibilities for which they were untrained. The MTE specifically recommended that NAs be included in all future MCH training activities of the project.

5.3.2 Project Outputs after the MTE

The PHCP nurse-midwife works collaboratively with the Swazi nurse-midwife who coordinates the country's Maternal Health and Family Planning Program, as well as the country's only two obstetrician/gynecologists (one who directs the country's UNFPA Program and one who heads the obstetric and gynecologic service at the MOH's largest hospital). She is an active and influential member of the Board of Directors of the Swaziland Infant Nutrition Action Network (SINAN) and provides direct clinical care to a few individual pregnant women. In addition to her role in the clinic-based training and follow-up, the interlinkages of these professional relationships cause her influence, and thus that of the Project, to be widely dispersed in this small country. Thus, as in many development projects, it would never be possible to describe all of the outputs and impacts of this project.

5.3.2.1. Outputs Related to Antenatal Care and Screening of Pregnant Women for Syphilis

One purpose of the clinic-based PHC training is to improve the quality of antenatal care, risk assessment and referral. This training provided an excellent update and refresher of the ANC knowledge and skills of SNs. The discussions of problem cases at the end of each day and the opportunity to practice what they were being taught under the guidance of a teacher who is an excellent role model, were especially important attributes of this course. However, in the case of NAs, the ANC content of the 5-day course was probably too broad and too thin. Nevertheless, since the NAs sometimes have to function on their own, even a brief orientation to the purposes and procedures of antenatal care can only be to the good.

In conjunction with this training, the Project has taught nurses to use gestational wheels to calculate gestational age and to use measuring tapes to monitor the size of the growing fetus. Both of these simple methods enhance the ability of a nurse to detect incipient problems during the antenatal period. The Project has provided gestational wheels and measuring tapes to nurses in clinics in three regions. In addition, the Project has been instrumental in obtaining and distributing necessary equipment, such as blood pressure cuffs, which were lacking in some clinics; the commodities themselves were provided by another organization.

The Project has installed "privacy curtains" in clinics in regions which have had the CB training. These curtains make the examinations which are part of antenatal and family planning care less embarrassing for the patients and reinforce the importance of protecting the patients' dignity.

The Project has developed, equipped and implemented a system to screen every woman who comes for antenatal care for syphilis. This required providing the necessary equipment to the clinic nurses, teaching them to take, store and arrange transport of the blood samples to the nearest laboratory, developing the capacity at the laboratories themselves and designing and implementing a record-keeping system to manage this whole system. This was a major and important undertaking.

5.3.2.2. Outputs to Improve and Increase Attended Childbirth

The Project has provided repairs and equipment to create or upgrade maternity units at three clinics, two in Shiselweni and one in Lubombo. A fourth maternity, in Hhohho Region, is in the process of being upgraded; a fifth one will be upgraded in Manzini. One of the maternity units in Shiselweni is attached to a very remote and chronically understaffed clinic. Because of this, the maternity unit has never been used, and it may never be. Although a similar problem has thus far prevented the use of the maternity unit at the clinic in Lubombo, the MOH plans to post another nurse-midwife to the clinic, and it will most likely be used.

The Project helped to revise the partogram (labor graph) which is used to facilitate and guide the monitoring of labor and delivery in most health facilities in Swaziland and paid for the production of 30,000 copies. However, not enough people had been involved in the revision process. Although the new form was pilot tested at a tertiary hospital, it was not piloted at a rural health center or a maternity unit attached to a clinic. Many of the physicians and nurse-midwives who lead the country's major maternity services do not like some aspects of the new form, which has some advantages but also some disadvantages relative to the partogram it is intended to replace.

5.3.2.3. Outputs Related to Post-Partum (PP) Education

At the request of the MOH, the Project has developed a protocol which is intended to establish 4-6 week post-partum visits as a routine part of maternity care in Swaziland. The protocol calls for pelvic examinations and Papanicolaou smears (screening for cervical cancer) to be conducted on every woman. The evaluation team believes that the costs and benefits of actually implementing such a program in this country have not been adequately considered. The major public health benefits associated with routine post-partum visits come from educating the mother and interviewing her to identify problems. Requiring a Pap smear and pelvic examination greatly increases the costs of providing post-partum

care and will probably yield few benefits. Given the shortage of nurses to conduct such examinations, introducing a whole new component of routine, expected maternity care could overload the system to the extent that other, more valuable services are damaged.

More systematic and effective post-partum education is needed. Requiring pelvic examinations may discourage women from coming for post-partum care and take up most or all of the time consumed by such visits. Health education (i.e. the Project's real mandate in regards to the post-partum period) is likely to be the loser.

5.3.2.4. Outputs Related to Breastfeeding

The Project has purchased three excellent electric breast pumps, two of which have been placed in the maternity units of the country's two major tertiary hospitals. In addition, 50 manually-operated breast pumps have been provided to SINAN, which has given one each to their 35 breastfeeding counselors, approximately half of whom were trained through the PHC Project.

The Project is teaching the "Ten Steps to Successful Breastfeeding" (developed by WHO and UNICEF) through its clinic based-training. The "10 steps" were also incorporated by the PHCP nurse-midwife into the UNFPA 8-week family planning course and have been woven into other teachings and programs through SINAN and various other means.

5.3.3. Findings Regarding Maternal Health Care Currently Being Provided through the PHC System

Antenatal care (ANC) was offered at every clinic visited by the evaluation team and, except for the one company facility visited, was available throughout the day, at least five days per week. When the PHC Project started, most clinics offered ANC services only one day per week.

The evaluation team was not able to find data to document an increase in the number of ANC visits provided through the PHC system during the Project period. In fact, the only available data suggest a significant decrease in first ANC visits, from about 38,000 in 1985 and 1986 to only 29,000 in 1989 (data from the HIS system). The team doubts the validity of these data. Data from the 1988 Family Health Survey indicate that only 6 percent of women who gave birth between 1983 and 1988 had no ANC visits during their most recent pregnancy; 30 percent had between one and four ANC visits, and 64 percent had at least five visits.

RHMs appear to play an important role in encouraging women in their communities to go to a clinic for prenatal care, to go for care as soon as they know they are pregnant, and to continue with a regular pattern of prenatal clinic visits. The yellow RHM cards are in use. The MOH has assumed responsibility for production of the

cards, assuring that they will continue to be available as an ongoing part of the system. This is also the case for the white referral cards, which were developed through the PHC Project prior to the MTE.

The pink, patient-retained ANC cards are in use in small and large health-care facilities, whether run by the MOH, missions or companies, throughout the country. It is rare for a woman to lose or forget to bring her card. The cards structure and improve prenatal care. Nevertheless, individual SNs exercise judgment as regards which women should be referred to a physician or seriously encouraged to go to a health center or hospital for delivery. Some nurses say that they encourage all women with a risk factor to go to a hospital, or even that they encourage all women (i.e, regardless of risk) to go to a health center or hospital. However, routine advice to go to a health center or hospital for delivery is not acted on by many women; special advice based on a nurse's concern about a specific high-risk condition is more likely to be followed. Although some SNs do not comply completely with the referral rules outlined on the card, they refer in the case of the most serious risk factors.

The risk-referral rules outlined on the pink card are probably over-sensitive -- i.e, they would refer many more women than actually require a hospital delivery. Nevertheless, the cards direct the attention of the care provider to important risk factors and contribute to the selective referral of women who are more likely than others to experience intrapartum complications. Oversensitivity of the risk-referral system should not present problems until the capacity of the hospitals and health centers to conduct deliveries becomes so strained that the quality of care for women with actual complications is compromised.

A weakness of the system is the lack of a systematic approach to transferring information from the pink card used during one pregnancy to the pink card used during the next pregnancy. Lacking such a system, the SNs give inadequate attention to prior pregnancy history, which is one of the most important factors in predicting complications. Information from the last pregnancy is also needed to determine a woman's status as regards the administration of tetanus toxoid. The Family Health Survey conducted in 1988 found that more than 90 percent of women had been immunized against tetanus (TT) during their last pregnancy -- a huge improvement since a 1982 study found that tetanus toxoid had been given to only 32 percent of women who had a first visit for antenatal care. White referral cards, gestational wheels, and tapes to measure the height of the uterus are in use in at least some clinics. Privacy curtains have been installed and are in use; the nurses seem to be proud of them.

Two of the four maternity units which have been renovated and equipped through the project are not in current use. At least one of them may never be used. The lack of enough nurse-midwives is the primary constraint to the provision of attended childbirth care at the rural clinics. Another constraint may be the style of "professional" versus "traditional" management of labor and delivery. Many women may prefer to deliver at home where they can give birth in a squatting position. Back rests to facilitate the use of a semi-upright position during professionally attended deliveries might make them more attractive.

The proportion of professionally-attended births increased from 45 percent before the PHCP began to about 55 percent in 1988 (Family Health Survey). Although most of these births are attended by nurse-midwives, the majority take place in hospitals. Only 3 percent of births in 1988 occurred in a clinic or health center. At this point, the country's health centers and hospitals may still be in a position to absorb additional women seeking childbirth care. However, a large increase in the proportion of births directed towards these facilities might cause them to become seriously overextended.

All clinics have the capacity to start intravenous fluids and to administer emergency drugs to women who experience the most common life-threatening complications of labor and delivery. However, many clinics lack adequate telephone communication with their referral hospital. In some cases the nurse has to leave the clinic to place a telephone call. In other cases, the local telephone exchange closes down at 5 p.m.! Most clinics in this situation do not have adequate means to summon transport to the hospital for a seriously ill patient.

All referral hospitals have the ability to organize an emergency cesarean section, with general anesthesia, within less than an hour. The quality of these services may be problematic, however; post-cesarean section infections have become an important cause of maternal mortality. (This may also be due to too many vaginal examinations prior to cesarean sections.)

Nurse-midwives who work in health center and hospital maternity units routinely provide some organized program of post-partum health education to newly-delivered mothers.

5.3.3.1. Screening, Diagnosis and Treatment of Sexually Transmitted Infections

Sexually-transmitted infections, including syphilis, are relatively common in Swaziland and may contribute significantly to the incidence of stillbirths (in the case of syphilis) and of preterm deliveries (due to various cervical infections). The system (developed by the PHCP) to screen every woman who comes for antenatal care for syphilis appears to be functioning to some degree in almost every clinic. Even the most remote and otherwise

abandoned clinics seem to participate; however some clinics experience such long delays in transmitting the blood and obtaining the reports that the results are never recorded on the pink cards of many women, and some women with positive RPRs are never treated. Although some well-run clinics (particularly large ones run by companies or missions) send RHMs to tell women whose tests were positive to come for a return visit, a truly systematic approach is exceptional. Because of delay in getting the test results, and because many women do not return to the same clinic for a second ANC visit, hospital maternity ward SNs report that the RPR result is missing from the pink ANC cards of nearly half the women who deliver in hospitals. Despite these shortcomings, the development and institutionalization of this complex system is a significant accomplishment of the PHC Project.

The clinic-based PHC training includes some content on how to diagnose and treat various sexual infections (STDs) on the basis of clinical (rather than laboratory) findings, and encourages nurses to ask women about vaginal discharge and to examine women who have symptoms. However, this content is not included in the booklet of written materials which support the training (although it is covered in the Clinical Reference Manual for Clinics and Health Centers which was also produced through the PHCP). Small, informally-produced charts which outline the diagnosis and treatment of various sexual infections were posted on the walls of the examining rooms at the clinic run by the Family Life Association of Swaziland (FLAS) in Manzini. Although the charts were attributed to the MOH, they were not in evidence at any of the rural clinics visited by the evaluation team.

Because of the high incidence of sexual infections and their significance for both maternal and perinatal health, this area should have been given more concentrated and sustained Project emphasis.

5.4. Family Planning

5.4.1. Project Outputs to Midterm

The MTE summarized a large number of project outputs in support of family planning, including attention to the family planning commodities supply system, development of a family planning protocol, and provision of family planning health education materials to the clinics. In addition, family planning content was emphasized in a series of Maternal and Child Health/Family Planning (MCH/FP) workshops conducted through the Project between June and August of 1988. Nearly three hundred persons attended six such workshops. Content related to family planning was also included in many of the other meetings and training activities conducted both before and after the midterm.

5.4.2. Project Outputs since Midterm

The main specific contribution of the project to family planning since the MTE was the important participation of the PHC Project nurse-midwife in the design and teaching of the very intensive and excellent UNFPA-sponsored 8-week clinical family planning course. The course was started in 1989; 47 nurses have completed the course, and 17 are taking it now. A total of 96 nurses will have completed the training by the end of 1991. UNFPA requested that the PHC Project nurse-midwife help him to design and teach this course. It appears to be an excellent course; the people trained through the UNFPA course already seem to be having a positive impact on the availability of quality clinical family planning services in Swaziland. Although it would have been desirable to also include family planning in the PHC Project's clinic-based training course, in fact the course contains too much content as it is. Thus, the evaluation team has no criticism of the way the PHC Project has managed this aspect of their mandate.

5.4.3. Observations on the Current Capacity of the PHC System to Deliver Family Planning Services

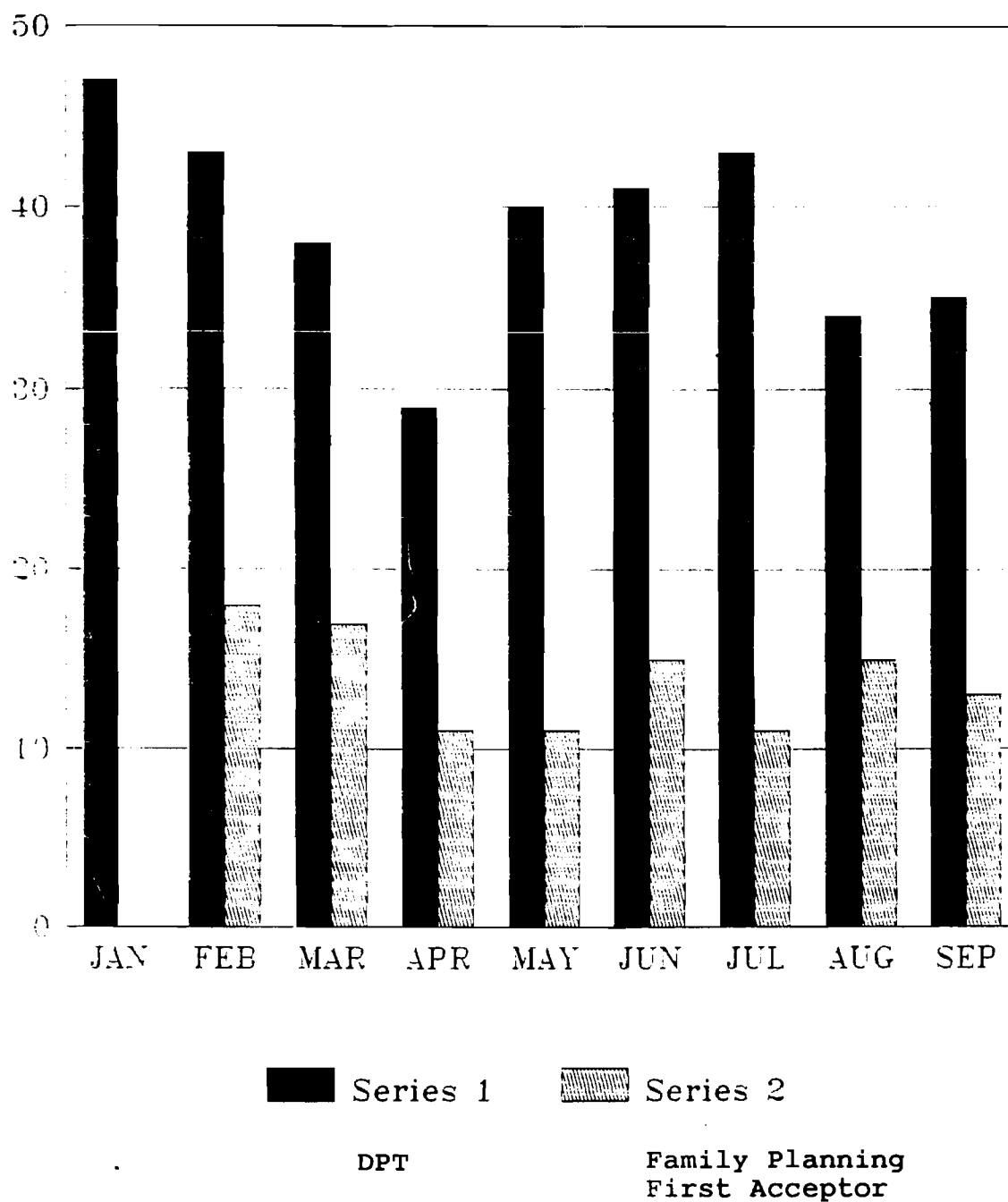
Most nurses, and even RHMs seem interested and supportive of family planning. Although some nurses (those who have completed the UNFPA 8-week course) insert IUDs in hospitals, health centers and PHUs, pills, injections and condoms are the methods available through rural clinics. The large and unexpected increase in contraceptive prevalence found during the Family Health Survey documents a growing demand for family planning and provision of these services.

Data from Shiselweni Region during January - September 1990, shows a ratio of about one new family planning patient for every three infants who are brought to the clinic for immunizations, (using first DPTs as an indicator of the number of children being brought for their first immunization). (See Table 1 on the following page.) Since nearly all Swazi children get at least one vaccination, the number of first immunizations can be used as a proxy indicator for the number of post-partum women, i.e, the primary target group for the family planning services which are provided through the PHC.

Family planning was available five days a week at all but one clinic visited by the evaluation team. The quality of care provided to women interested in obtaining a family planning method was good. The privacy curtains are very helpful.

DPT 1 VS FP 1ST ACC

SHISELWENI REGION



A major constraint to the delivery of family planning services is that a large proportion of women who bring their infants and older children for growth monitoring and immunizations obtain these services through the outreach centers. The MOH rule requires that a pelvic examination be performed on every women prior to the initiation of hormonal contraception. It is not practical, or in many cases possible, to conduct pelvic examinations at most of the outreach sites. Since pills and injections are the most popular and commonly used methods of contraception, this means that initiation of family planning cannot be combined with the routine child-survival services provided at outreach sites. Although the HIS system will be able to distinguish between services provided at outreach sites as compared to clinics, PHUs, or other components of the PHC system, the program to compile those data has not been written yet. Lacking this information, we cannot say what proportion of post-partum women may lack access to family planning because they live far from a clinic and have learned to use an outreach site as their PHC service source.

5.5. Child Health Services

The MTE reported many PHC Project training and management contributions to the country's EPI and CCCD programs. However, because of the presence of these other donor-supported programs, the post-MTE revision of the Project contract called for reduction in PHC Project efforts directed at immunization, diarrheal diseases and acute respiratory infection (ARI). Nevertheless, the Project, in cooperation with the other specialized programs, has continued to make important contributions to the country's child survival (CS) efforts, especially through its regionalized clinic-based training program and installation of "ORT corners" and Salter scales (for weighing children) at clinics.

5.5.1. Project Outputs since Midterm

The PHC Project's Public Health Physician has played a major role in developing a comprehensive plan for the EPI and a critical role in supporting the work of the ARI program. Whereas some of the content of the Project's clinic-based training provides a review and update of content and skills which are not entirely new to the nurses being trained, the ARI content of the course is completely new to most of the trainees. The training focuses on clinical assessment of a child who is sick and coughing, and guides the nurse to make an appropriate decision regarding referral and therapy. The focus on assessment and decision making is excellent (and could serve as a model for nurse practitioner training). The PHCP physician also made a major contribution to the development of a well-designed wall chart to guide and assist nurses in their management of ARI. UNICEF is paying for production of the wall charts. The charts are introduced during the PHC clinic-based training and distributed to clinics as part of the package of inputs to clinics which follow the course.

The clinic-based training itself is one of the major PHCP outputs related to the main components of child survival. In addition to ARI, the course (and the very useful "Training Modules" document) includes content in acute and chronic otitis therapy, the new immunization schedules, how to operate and maintain the cold chain, how to tell mothers about the side effects of vaccines; the tetanus immunization schedule for women, breastfeeding, child growth monitoring, and feeding of both healthy and undernourished children. Although much of this information is not new to the trainees, the clinic-based format, including discussion of problematic cases, was of particular benefit.

As part of the follow-up of the clinic-based training, the Project has encouraged clinic nurses to organize "ORT corners" where the mothers of children with diarrhea can sit to prepare oral rehydration solution and administer it to their child under the nurse's supervision. The PHCP is installing shelves for storing the ORT supplies and a table and benches for the ORT corner in each clinic. Each corner also has a wall poster with simple directions on making and administering ORT.

As a further part of the CBT follow-up, the Project has supplied and installed wall brackets to provide a stable base for hanging the Salter scale (i.e. for weighing children), and provided a supply of small and large plastic pants for use during weighing. Mechanisms for use of the Salter scales were also supplied for use at outreach sites.

5.5.2. Observations of Child Survival Activities at Clinics and Outreach Sites

ORT corners have been set up and are used in almost every clinic visited in Shiselweni and Lubombo regions. The Salter scale brackets are in place. The availability of an adequate number of weighing pants speeds and facilitates weighing of the large number of children who are brought to clinics, and especially to outreach sites, for growth monitoring.

Nurses weigh the children accurately, record the weights correctly, and use the information as a basis for identifying underweight children. They also observe the children for other signs of poor nutrition and health, try to identify those who need additional nutritional supplements, and counsel mothers regarding child nutrition. In all, their performance in relation to growth monitoring and child nutrition is impressive. The only area that seemed to be weak, in some cases, was attention to the possibility of worms as a cause of pot bellies, lethargy and poor growth in children.

5.6. Clinic Management

5.6.1. Project Inputs

Many of the clinic-level inputs of this project have been directed at improving the overall performance and management of the clinics, i.e. as compared to those directed towards improving the quality and/or quantity of specific clinical services. The Clinic Orientation Manual discussed in 6.2. falls into this category. Of particular importance has been the Drug Management System which was implemented prior to the MTE. The number of drugs provided through clinics was reduced to ensure continuity of supply and appropriate use.

More than 600 people (mainly nurses) were trained in a total of 16 clinic management workshops before the MTE. The workshops covered supervision, patient flow, drug management, home visits as a means of learning about the community, and how to create a graph to display clinic data in a meaningful way. In addition to improvements in management, the Project used this training to encourage clinic nurses to make home visits.

In addition to this training, clinics in Lubombo and Shiselweni Region have received a variety of inputs related to clinic-level management, including a set of file drawers and an organized and labeled set of hanging file folders with which to organize their forms and papers. A member of the PHCP staff has visited each clinic in Lubombo region to assess and try to redress clinic management problems. This resulted in up-to-date graphs of clinic service statistics, which are displayed on the walls of many clinics. Such inputs were currently being provided to Hhohho region, with Manzini scheduled to receive them in 1991.

5.6.2. Observations of Current Actual Clinic Management

The Drug Management System was clearly an accomplishment of major importance. The system seems now to be solidly in place; it falls away only in a few small clinics where there is little supervision and only one SN or NA who is clearly overwhelmed. The system has not only reduced the likelihood of clinics running out of a drug completely, but has made the dispensing of drugs (precounted into labeled dispensing envelopes) much more efficient. Some nurses use RHMS to prepare the envelopes of precounted drugs.

Although the Clinic Orientation Manual is out-of-date and rarely used, the Project's training in use of clinic statistics has had a lasting impact. Up-to-date graphs of clinic service statistics are displayed on the walls of many clinics.

5.7. Home Visits

Although home visits were not emphasized in the original PHC PP, the Logical Framework for the revised Project called for a 40% increase (from an unstated base) in the proportion of rural clinics which make home visits. The clinic management training conducted by the Project before the MTE (more than 600 people trained by the end of 1989, see Section 6.6.1) included content on use of home visits as a way to assess community needs. Staff nurses are taught to do home visits during their preservice education.

5.7.1. Observations of Current Practice

The report of 1990 HIS data document a total of 770 home visits conducted during the first five months of this year - an average of about 150 per month. It is likely that most of these were made by nurses based in PHUs. A small group of nurses from the PHU in Mbabane sometimes make home visits together; a group of two or three nurses may make 4 or 5 home visits in a day. Although all PHC nurses have been trained and encouraged to conduct home visits, clinic nurses can do so only when there are two SNs at the clinic (freeing one of them to leave) and on days when relatively few patients have come to the clinic. In fact, nurses from only a few clinics conduct any home visits; those who do conduct very few.

The visits conducted by the Mbabane PHU nurses, are structured around an extensive, 4-page interview form designed to collect information on the composition of the family, decision-making within the household, family economics, water supply, toilets, refuse disposal, nutrition, social activities, beliefs and practices which have an impact on health, utilization of health facilities, vaccination status of children, and physical assessment of each family member. It was not possible to determine the purpose of collecting this information, or if and how it is used.

A somewhat briefer form has been designed and is in use in some other parts of the country. Although visits of this type help to educate nurses about the needs and perceptions of the people they serve, given the other demands on PHC facility nurses, it is not practical to expect clinic nurses to conduct many home visits.

5.7.2. Conclusions and Sustainability Regarding Home Visits

Considerable efforts have been directed towards training and encouraging nurses to conduct home visits. These efforts have been part of a complex of MOH and donor-program inputs intended to orient nurses towards health education and involvement in the communities they serve. These efforts appear to be working. The evaluation team was impressed with the community orientation of nurses assigned to clinics and PHUs. The emphasis on home visits has surely made some contribution to these good results. Training

on home visits has been done, and a system of sorts is in place; nurses are actually conducting some home visits. This system should be allowed to continue on its own momentum. However, given the thinness of nursing staff at clinics, neither the PHC Project nor the MOH should expend effort to increase the number of home visits.

5.8. Supervision

The original PP called for improved supervision and management support as a way to improve the productivity of clinic nurses.

In theory, the supervision of the PHC system nurses flows through the Public Health Matron, i.e., the top public health nursing position at the central level to the PH Matron for each region. However, the central-level PH Matron position is currently vacant due to the recent retirement of the Matron, and all four of the regional PH Matrons are simultaneously out of country for long-term (8-month) training. The MOH personnel system does not include posts for regional-level public health nursing (PHN) supervisors. However, because of the clear need for someone to manage and supervise the system within the regions, one or more senior nurses from each of the country's seven PHUs have been assigned to this role. The number of supervisors varies from region to region from only one in Shiselweni to five in Hhohho. Lubombo and Manzini each have two, making a total of ten throughout the country. Most of the supervisors are responsible for managing a PHU, as well as facilitating and supervising the work of nurses at clinics in a region or subregion. The supervisors are also supposed to work with and support the two RHM trainers in each region; the RHM trainers are NAs. At least one of the three supervisors met by the evaluation team attends a monthly meeting with RHMs in her area. Because the supervisors are not holding official positions, and some are not designated as "Sisters", they perceive themselves to have less authority than they would if "regional supervisor" was an actual position within the MOH.

Early PHC Project inputs related to supervision included a series of workshops on supervision and the development and implementation of a checklist to improve the effectiveness of supervisory clinic visits by directing the supervisor's attention to a sequence of specific observations -- e.g., the clinic's health education plan; record of defrosting the refrigerator; compliance with the drug management system; neatness of records; availability of specific forms, posters and equipment; food storage; whether or not home visits have been made; knowledge of standard treatment for certain communicable diseases; assessing how well the nurses communicate with patients, and whether and how the clinic uses RHMs to follow up people with certain kinds of chronic problems. The checklist was designed by a group of actual clinic supervisors, with assistance from PHC Project staff. The MTE noted that the checklist was being used, although many supervisors said it was too

long and needed to be revised. The MTE also reported that the supervisors were unable to use the skills learned in workshops due to lack of transportation to the clinics. The post-MTE revision of the project called for the purchase of four 4-wheel drive vehicles to support the work of the regional nursing supervisors.

5.8.1. Project Inputs since the MTE

The Supervisor's checklist is in the process of being shortened and revised to make it more oriented to solving problems that are identified during clinic visits. A Supervisors and Trainers Guide for Implementation, Maintenance, Monitoring and Evaluation of the Drug Management System was developed to assist regional supervisors and/or trainers to teach the system to clinic nurses. Although the document is dated December 1989, the final version was not available until April of 1990. There is no evidence that it is being used. The supervisors recently attended a one-week, PHC-sponsored course on personnel management.

Four 4-wheel drive vans were purchased and are now in use by four supervisors. However, three of the regions have been divided into two subregions for the purpose of supervision; therefore there are really seven supervisory areas; supervisors for three of them are still trying to function under severe transportation constraints. The Project has paid for driver education for 23 MOH staff members, including three of the regional or subregional nursing supervisors. Few nurses know how to drive, and a shortage of drivers could limit the utility of the new vehicles. Of the 23 persons who have taken driver training, 15 have passed the course and two have been authorized to drive a government car. Only one supervisor has passed the course so far.

All of the current supervisors were expected to participate in the PHC clinic-based training in their regions; in addition, four of the ten supervisors were trained as trainers and helped to teach the CBT course. Unfortunately, some of the supervisors did not participate fully.

The PHC Project Clinic Management Associate has worked closely with the supervisors in Lubombo and Hhohho regions; i.e. the supervisors from these regions have accompanied her during at least one visit to every clinic as part of the PHC Project follow up to the CBT in these regions. During these visits, she provides a good supervisor role model, i.e. using a checklist to conduct a systemic assessment of specific aspects of clinic performance, identifying and solving problems, asking the nurses if they have any problems, and interacting with them in a supportive way. She also oriented a new person to the supervisor's position in Shiselweni.

The Project has helped the MOH to organize one-day monthly meetings of the regional and subregional supervisors, the four regional PH Matrons (until they all left the country for 8-month training), and the central MOH coordinators for EPI, ARI, CDD and Maternal

Health and Family Planning. In addition, it convened a four-day program review and planning meeting in 1988. The monthly meetings have been incorporated into the MOH's routine operations and will be continued when the PHC Project ends.

5.8.2. Observations on the Actual Clinic Supervision

Although the 4-wheel drive vehicles which were provided to four supervisors are also used for other purposes, they are available for the supervisor's use; the supervisors only have to coordinate their schedules to fit with other uses of the cars. Evaluation team members met three supervisors, of whom only two had access to a PHC Project car. Transportation was severely constrained for the other supervisor, who used a hospital ambulance to travel to the clinic where she met with the members of the team. The supervisor without a car said that "it is a miracle" if she spends two days a month making supervisory visits to clinics.

In addition to transportation constraints for supervisors in three of the four regions or subregions, time is a constraint. In the absence of the Public Health Matrons, they must attend a number of meetings, including some in Mbabane, and supervise their own PHUs, as well as the clinics in their regions. This involves quite a lot of paperwork. Most of them can devote only about two days per week to actual supervision.

The frequency and type of supervision provided to clinics varies according to several factors. The HIS data system documents 354 clinic supervision visits during January - May of 1990. Assuming that there are about 125 clinics, this number averages about one visit per clinic every other month. Some clinics get a monthly visit from the MOH regional or subregional supervisor. In addition to this, companies and some missions provide their own supervision, and clinics in some regions have regular visits by the Regional Public Health Medical Officer. Other clinics, however, are visited rarely, including some mission clinics, which seem to have been almost abandoned by their missions, and clinics in areas where the supervisor has no access to a car. Larger, easier-to-reach clinics are visited more often; remote clinics are visited less.

Some Supervisors use the Checklist; others do not, complaining that it is too long. Nurses at clinics visited by the evaluation team were asked who supervises the clinic, how often the supervisor visits, what happens when the supervisor comes, and if and how the supervisor helps them or their clinic. The consistent and main role of the supervisor, from the perspective of these nurses, is to pick up and/or deliver blood samples, RPR result reports, and various kinds of paperwork and supplies. They expect the supervisor to look at their records and patient registration log books and to notice and care about the cleanliness of the clinic. Problems brought to the attention of the supervisor have to do with shortages of medicines or staff, and logistical problems, such as a broken water pump. One of the supervisors organizes occasional

meetings of either the staff nurses or the nursing assistants from all clinics in her area. There was no evidence that the nurses expected the supervisor to oversee their clinical competence; neither did the supervisors see themselves in this role.

Visits by the Regional Public Health Medical Officer are focused around the care of patients with specific problems. The physician in Shiselweni holds to a regular schedule of visits to the clinics. The nurses ask particular patients to come to the clinic on the day the doctor is expected to visit.

Some of the supervisors have had multiple training inputs; one named 8 workshops, each 3 - 4 days in length, that she had attended. Many of these were conducted through the PHCP. Nevertheless, the actual supervision is spotty, and, in some areas, superficial and weak. Some problem clinics seem to be ignored. Selection of the "senior nurse" to serve as supervisor may literally mean that the oldest nurse has been assigned to supervision. Adequate performance of this job may be too physically demanding for some older nurses, requiring, as it does, extensive travel, often over poor roads, to visit rural clinics.

Persons selected for these jobs were not necessarily interested in being supervisors, and, in some cases, were not particularly interested in public health. Since they were selected mainly on the basis of their longevity in the system, the supervisors are not necessarily either the "best" clinic nurses (i.e. who are capable of performing that role with particular effectiveness), or natural leaders, i.e. with good communication skills and the ability to inspire and motivate others.

5.9. Outreach Sites and Project Accomplishments

Outreach sites are simple structures, usually built by or with labor from the community, at locations to serve people who live far away from clinics. Nurses from PHUs go there with supplies according to a regular schedule (usually once a month) to provide PHC services. The revised PP called for the PHC Project to establish 49 new outreach sites, including supplying basic furnishings and equipment.

The Project has encouraged and contributed to the development of 77 outreach sites. This total includes improvements in some previously existing outreach sites, as well as establishing new ones. When a new site is to be developed, the Project works through either the regional supervisor, or a nurse at the nearest clinic meets with leaders of a community which has been identified as eligible for an outreach site because it is too far away from any clinic. The community leaders have to want to develop the outreach site, and the community provides the labor to build the structure. The PHC Project provides building materials, tables and benches, Salter scale, trunks for transporting the outreach supplies, and an examining table. Although the examining tables

have been purchased, they have not been delivered to many of the outreach sites because they are hard to transport. This has been an effective and relatively inexpensive way to extend PHC services beyond the reach of the actual clinics. Two members of the evaluation team visited two outreach sites which had been built and equipped with assistance from the Project -- one on its service delivery day, and one for a discussion with women from the outreach site community. The outreach site visited on its active day had attracted a large number of patients, probably nearly 50; the majority were mothers who had brought their children for growth monitoring and immunizations. Women, and a few men, who had convened at the other outreach site expressed the desire that their outreach site be maintained, even though a new clinic was being built in a community not too far from them. They valued and did not want to lose their outreach site.

5.10. Recommendations

- a. The responsibility for deciding which nurses are assigned where should be removed from the hospital matrons and returned to the RHMTs.
- b. The MOH should take immediate steps to improve housing for nurses in rural clinics, including enhancing security.
- c. To assist clinic nurses to deliver preventive/promotive services, the MOH should develop and publish A manual, which should include the following:
 - attention to the Clinical Reference Manual for Clinics and Health Centres and the Clinic Drug Formulary and Handbook,
 - follow up of women with positive syphilis screening test, perhaps by using RHMs to find the women and ask them to return to the clinic,
 - importance of pregnancy history information for predicting problems during the current pregnancy: the section on use of the pink ANC cards should direct the nurses to instruct women to bring the card from their last pregnancy to their first prenatal visits, and how to transfer information from the old to the new card,
 - new sections on:
 - diagnosis and management of STDs;
 - family planning;
 - the role of RHMs and how to work most effectively with them;
 - diagnosis and treatment of intestinal worms, and
 - skin diseases.

- d. A higher priority should be given to the need for a program to prepare SNs for their role in the diagnosis and management (treatment or referral) of ambulatory sick patients at rural clinics. Decisions regarding nursing education should not be left entirely to those involved in nursing education who may tend to focus mainly on the nursing aspects of the role played by clinic nurses. The NP training program at IHS should be resumed, and RFM Hospital should be allowed and encouraged to restart their NP program. Relatively short apprenticeships whereby a nurse is assigned to work in the outpatient department of a hospital or health center under the direct and close supervision of a physician should be tried and evaluated. Training of nurses for this role should include a focus on careful clinical assessment. Trainers should be familiar with the tools which are available to nurses in the field, i.e. the Clinical Reference Manual for Clinics and Health Centers and the Clinic Drug Formulary and Handbook, and should help nurses learn how to most effectively use these tools.
- e. The MOH should reconsider the advisability of including pelvic examinations and Papanicolau smears during postpartum visits. An effort should be made to quantify the probable manpower and material costs and probable benefits of providing this service to all post-partum women. A study should also be made to quantify the probable costs and benefits of implementing an alternative program which emphasizes health education and individualized counseling of women in the period immediately after childbirth (especially for women who give birth in health facilities) when the mother brings her child to a PHC facility for his/her first growth-monitoring/ immunization visit, and, in the interim, through inputs provided through RHMs. The PHC analysis of cervical cancer screening in Swaziland should be studied in relationship to the reconsideration.
- f. The MOH should conduct a study to measure the impact on decisions regarding the use of hormonal contraception of information obtained through the pelvic examinations, which are currently required at the time of the first family planning visit.

Information recorded in a sample of the blue family planning records retained in clinics and PHUs could provide the data for such a study. If the information gained through these examinations has little effect on decisions regarding initiation of pills and injections, the requirement should be dropped. In that case, plans should be made to expand the delivery of family planning services to all outreach sites and to inform the women who use those sites of the availability of these services.

- g. The MOH should examine the purposes, benefits and costs of home visiting by nurses, and to clarify the expectations regarding home visiting.
- h. The MOH should establish and fill posts for regional and/or sub-regional clinic supervisors as soon as possible. Job descriptions and selection criteria, including leadership ability and superior technical competence for these posts should be established to ensure that they are filled by suitable personnel.
- i. The MOH should institute a routine system for evaluating the on-the-job performance of nurses and supervisors and for providing training in areas of observed weakness, including management and training skills for supervisors. Where appropriate, individual nurses could be sent to selected courses such as some of those offered by the Institute of Management.

All supervisors should be expected to identify needs for additional training of individual nurses, as well as needs which might be common to clinic nurses as a group. These needs should be discussed during the monthly PH supervisors and Matrons meeting. The PH Matron (central level) should then be responsible for developing plans to meet the identified training needs. In some cases, this could be accomplished through on-the-job training provided by the supervisors themselves.

6. DECENTRALIZATION

Decentralization of health system structures and management is a key issue for many countries which strive to promote primary health care. It is also a confused one. The term "decentralization" has been used to mean a variety of management structures from the deconcentration of government services by handing over some administrative authority to local offices of central government to the actual devolution of power through the creation of local government authorities which are substantially independent of the national level and have authority to raise revenue and make expenditures. Thus, before the success of the PHC project in supporting Swaziland's decentralization efforts is assessed, it is important to understand what the Swazi health managers mean by decentralization and what their aim has been in promoting it. In the discussion below, a description of Swaziland decentralization in principle is followed by an analysis of what has actually occurred in practice.

6.1. Swaziland Decentralization in Principle

6.1.1. Origin of Decentralization

The publication of the Swaziland Government National Health Policy document in 1983 coincided with a four-week consultancy outlining the framework and process for decentralizing the management of health services. This evaluation failed to establish what precipitated the government's decision to decentralize or what, at that time, were the anticipated benefits from it. The National Health Policy, however, emphasized that health programmes that have community input into planning, implementation, and financing and over which there is a strong measure of local control stand a better chance of long-term success. One can thus infer that, at least initially, the government's main aim in promoting decentralization was to make health services more responsive to local health needs.

The National Health Policy was a clear statement of government intentions to decentralize health services. It confirmed that the MOH is committed to converting the highly centralized system for the planning and delivery of health services into a system which is decentralized to the district¹ level and which provides for local grass-roots participation in the decision-making process.

6.1.2. Process of Implementation

The consultant who prepared the initial framework for decentralization in 1983 was recruited the following year for a two-year period as the Health Management Advisor under the International Human Assistance Program (IHAP) - Swaziland Health Planning and Management Project to implement the recommendations. A developmental strategy of working in each of the four regions for three months was adopted. The process culminated in a workshop for all senior health managers, held in 1985, which formulated the organizational structure for decentralization. Decentralization was to be phased in over time by first developing the organizational structure and then by decentralizing specific administrative functions, such as planning, budgeting, financial management, etc., one by one.

¹ It is interesting to note that the Swaziland National Health Policy states that decentralization will be done to the district level, even though very little evidence of district organization exists. In the event, decentralization has proceeded on a regional basis.

In his end-of-tour status report, the Health Management Advisor commented that key MOH officials had not provided active leadership for the decentralization initiative on a consistent basis. Furthermore, he had worked during the first year of his two year assignment without a counterpart and with few HQ staff involved in the decentralization process.

The IHAP Health Management Advisor was followed in 1986 by another expatriate as a Health Management Associate under the PHC project. This advisor was brought in for a period of 48 person-months to be primarily involved in the further implementation of decentralization.

6.1.3. Organizational Structure for Decentralization

The decisions of the 1985 workshop on decentralization were published as "Guidelines for Future Operation of Health Services in Swaziland." This document set out the basic structure and functioning of the newly decentralized health service, and established Regional Health Administrators (RHAs), Regional Health Management Teams (RHMTs), Regional Health Advisory Councils (RHACs), a National Health Advisory Council (NHAC) and a Decentralisation Task Force (DTF).

A new cadre of health administrators was created with one senior health administrator at the central MOH, four regional health administrators and four hospital administrators (HAs). The RHAs were trained to Masters level in the United States and the HAs to certificate level at the Botswana Institute of Development Management.

The Swaziland model of decentralization can best be defined as a modified form of deconcentration. While the RHMTs are seen as a new level of management, with responsibility for regional health planning and operational management (including budgeting, monitoring and controlling the use of financial and personnel resources, and supervising all health facilities and services within the region, for both government and missions), they are still substantially dependent on the national MOH and have to channel their budget and personnel requests through it.

The RHMT is composed of the senior health professionals in a region and has a suggested top limit of 12 members. The members are expected to participate in a monthly collective decision-making process with the RHA as the chairman. The RHMT is served by three standing subcommittees: Planning and Budgeting; Personnel and Training; and Information, each composed of three to five members.

The role of the central MOH was expected to change with decentralization so that headquarters would almost wholly be concerned with policy formulation and guidance, national planning and evaluation, and provide technical support to the regions.

The RHACs (chaired by the Regional Secretary) and the NHAC (chaired by a parliamentarian) were to be created to provide policy guidance and advice and help mobilize intersectoral and regional resources.

The DTF is chaired by the Undersecretary of the MOH and includes seven headquarters senior staff, the four regional RHAs and one additional senior technical officer from each region. The DTF's role is to promote, support and facilitate the decentralization of health services.

6.1.4. Links with Other Regional Structures

While there is a general commitment on the part of the GOS to strengthen regional administration, in practice it has been half-hearted. Most ministries have been reluctant to hand over resource allocation powers or to shift physical facilities and staff to the regions. Thus, in decentralizing services, Health has moved ahead of all other government departments. Furthermore, the formal regional government structure is not very well developed. Both the Regional Administrators and the Regional Secretary are selected by the King, and thus have their mandate through the traditional power structure, rather than through the civil service.

6.2. PHCP and Decentralization

6.2.1. PHCP Priorities

At the start of the PHCP, the RHMTs had been created and their role descriptions and those of the individual members had been defined. RHAs had been trained and posted to the regions, but some of the other posts, such as public health matrons, were initially not filled. (The delay in creating these posts had resulted in the USAID stop work order of 1986.) The decentralization policy had been approved, and the guidelines for the operation of the newly decentralized services drafted and distributed.

The PHCP set out to continue to develop and institutionalize the new management systems and procedures by building on the work that had been undertaken before. The start was delayed by about six months, awaiting for the key RHMT posts to be filled. By the time the MTE, the evaluation team noted that the Decentralization Task Force was working effectively, RHMTs were holding regular meetings and a series of appropriate guidelines in personnel management, financial management and drug management had been produced, with the personnel management guidelines partially implemented. The mid-term review set the following priorities for the remaining two years of the project life:

- a. Strengthening the institutional framework by improving the functioning of RHMTs and RHACs;

- b. Strengthening program management through the development, implementation and monitoring of annual plans in each region; and
- c. Designing and implementing individual management systems in personnel and training, HIS, planning, budgeting, financial management, transport management, and supplies management.

The EOPS on decentralization states that by December 1990, "MOH central and regional technical managerial and support systems (are) operating in coordinated and effective manner, reinforcing the decentralization process." The expected project output was a decentralized system of planning, budgeting, personnel management, supervision and financial management in place and operating effectively at MOH headquarters and in the regions in accordance with approved regional workplans.

6.2.2. Project Inputs

The project inputs consisted of 48 months of TA time to provide on-going support and training to national and regional health managers through on-site visits, training workshops and seminars. In fact, this time was cut short by about seven months due to the serious illness of the Management Associate. Annex 6 shows the various training events done through the PHCP, many of them directly in support of decentralization. Three study tours were funded for senior Swazi health staff. The first was to study decentralization of the training function in Lesotho in 1987 and the other two to study decentralization of health services in Zimbabwe and Botswana in 1988.

The PHC project provided consultant assistance in personnel management, team building, and organizational development. Annex 8 lists the consultancies specifically designed to assist with decentralization, and health planning and budgeting issues.

6.2.3. Project Achievements

Each RHMT produced an annual workplan for FY 1990/91. The RHMTs meet monthly and are using a self-assessment questionnaire, which targets areas to improve meeting performance. Posts have been established for RHAs, Regional Public Health Matrons, Regional Health Inspectors and Regional Public Health Physicians, though many of these still remain unfilled. Regional Health Educators are currently in the process of being posted into each region, subject to housing becoming available.

The Guidelines for Future Operation of Health Services in Swaziland have been revised and transmitted to the DTF for review on 21 September 1990, under a new title, The Guidelines for the Operation of Decentralized Health Services in Swaziland. Two planning manuals were completed in August 1990: the first titled

Introduction to Planning and the second Manual for Drafting Annual Regional Workplans. Both are still in draft form. Significant steps have been taken to decentralize personnel management.

Competency-based training modules and reference materials have been produced to train regional staff in applying the regional personnel management system. Efforts are underway to update the Manual for Recurrent Budget. The HIS has been decentralized. (This is discussed further in the section on HIS). National and regional staff have been trained in budget preparation.

6.3. Decentralization in Practice

6.3.1. Findings

Swaziland is attempting to institutionalize a completely new organizational structure for its health services under very severe constraints. The position of Senior Health Administrator at the national level is currently vacant. None of the original four RHAs who were trained to Masters level remain with the health service. One of the regions, Hhohho, currently has no RHA. The RHAs in Lubombo and Shiselweni regions have occupied their positions for a year or less, were initially trained for hospital management and have not received any further training for their new roles at the regional level. The RHA in Manzini region is "borrowed" from the mission sector with consequent questions of authority over government staff.

Seven years have passed since the MOH first formulated its decentralization policy. While there is general agreement among Swazi senior health staff at national and regional levels about their commitment to decentralization, considerable confusion remains about what exactly is meant by it and about the extent of responsibility and authority that should be handed over to the regions in each functional area, such as planning, budgeting, information, personnel and transport. Peter Shipp, a consultant brought in under the PHC project to help strengthen regional planning and budgeting capabilities, commented in his report of December 1989,

From the start there has been a great deal of confusion about what authority the RHMTs have and how decentralisation is supposed to operate. This was understandable at the beginning, when decentralisation was a new concept in the country, and indeed no other Ministry has yet attempted it. However, the confusion and uncertainty has persisted about who is supposed to do what, as between HQ and Regions and also within Regions.

Clear, unambiguous statements of what decentralization is intended to be in Swaziland and on how it is expected to work have been notably lacking. The production of the revised Guidelines for the Operation of Decentralized Health Services in Swaziland with

assistance from the PHC Management Associate is an attempt to breach this gap. It is too early to say whether it is successful, since the Guidelines were completed only two weeks before the start of this evaluation and have not yet been widely circulated within the MOH. On close study of the guidelines, some unclarity still seems to persist. The most surprising finding is to note that in the list of functional statements for the headquarters and regional levels (p. 5 of the guidelines) the central MOH is seemingly given no national function for evaluating progress toward national health service goals and objectives. Furthermore, while the Ministry's Policy and Planning Committee is charged on p. 13 of the same guidelines with monitoring policies, goals, priorities and strategies that have been approved for programmes and regions, no evaluation function is listed here either. One is forced to ask the question, "Who's role is it to fight for national standards and equity of service provision in Swaziland?"

In the last couple of years, the RHMTs have developed in their ability to undertake regional health planning. They currently produce annual workplans, which are developed for the key Responsibility Centers in the region and then combined into a regional plan. While each region is given a budget allocation, the production of the regional work plan and budgeting for the province are separate activities. (See the planning section of this report.) Furthermore, very limited use is made of the HIS data in regional planning. (See the HIS section of the report.) Another major problem is the lack of integration of planning for vertical programs, such as EPI, CDD, ARI, maternal health and family planning, etc. (which is done at the national level) with the regional planning efforts. In January 1990, on advice from the PHC decentralization consultant, an attempt was made to have program heads of the vertical programs participate in the regional planning meetings. This was done at very short notice and did not meet with much practical success.

In planning and managing regional health services, the RHMTs are expected to function as collegial teams. An examination of the RHMT minutes reveals that while there are about half a dozen members who attend most meetings, there are at least an equal, and sometimes even a greater, number of other members who attend occasionally, but with equal voting status. It is difficult to see how such a large and shifting membership can develop into a well functioning, supportive team that can be proactive, rather than merely reactive in developing regional health services. Currently, the RHMTs function well as a forum for exchanging information between the members, but they are very limited as a medium for making managerial decisions.

The RHAs are young, inadequately trained for their jobs, and in one region, non-existent. They lack any role models and currently do not even have a focal point in the MOH if the RHA position falls vacant. It is hardly surprising if the occupants of these positions express frustration in their efforts to function as team

leaders over a team with a shifting membership and with no executive authority over the decisions of the other members who are Heads of Responsibility Centres. It is also understandable why both the RHAs and the health professionals not infrequently come in conflict in reaching agreement over which decisions are 'administrative' and thus belong to the RHA, and which are 'technical' and the purview of the health professionals in the team.

The Decentralization Task Force was expected to play a very important role in providing on-going guidance to the development of decentralization. After an active start in the middle 1980s, it has failed to function. In 1989, the DTF met only once. In January 1990, it was reorganized with revised terms of reference and membership and expected to meet quarterly. It has held no meetings since then. While the pressing commitments of the senior national staff, who are thinly spread to cope with their workloads, may account for the lack of DTF meetings, one is left wondering about the extent of effective national support for decentralization.

One of the intended benefits of decentralization was greater community involvement in decision making for health. Many of the structures to promote community participation either do not function or function only partially. The National Health Advisory Council has never been formed. The Regional Health Advisory Councils have had mixed success with effective functioning in some regions and no meetings for several years in another. The same holds true for community health committees.

Decentralization was also expected to promote intersectoral collaboration. With poorly developed government structures at regional level and with Health being the only Ministry attempting decentralization, there are no strong regional government structures to which the RHMT could be linked. At the moment, the links of the RHMT to other government sectors are either through personal contacts or, exceptionally, through a well-functioning RHAC.

In conclusion, it became very obvious to this evaluation team that the cost-benefits of decentralizing services under the prevailing constraints of Swaziland do not seem to have ever been considered. Swaziland, a small country with good road access between major centers, is very thinly staffed at all levels of the health service. Where trained staff resources are so stretched, stretching them even further by creating an additional four management structures, training teams, etc. may not be the best use of limited resources. Regrettably, the decentralization study, which had been strongly recommended by Mr. Shipp and started with assistance from the PHCP Management Associate and which was intended to be a comprehensive evaluation of decentralization in Swaziland, has never been completed.

6.3.2. Project Outputs

The above discussion makes it clear that the PHCP has failed to reach the EOPS and outputs on decentralization, which called for institutionalizing an effective decentralized system of planning, budgeting, personnel management, supervision and financial management at MOH headquarters and the regions. It should be noted, however, that this has occurred not as a result of failure of Project effort, but rather because of the real constraints the Project has worked under. Some progress, however, has been made, as shown in Annex 3, which was prepared by the PHCP team and displays the PHCP progress towards project outputs and indicators.

Further development on clarifying the current confusion about the definition of decentralization and any efforts to integrate regional planning with national planning will depend entirely on the Swazi health managers at the national and regional levels and on their willingness to utilize the various manuals, guidelines and planning and management procedures that were developed through the PHC project. Since many of these planning manuals and guidelines were finalized only a short time before this evaluation, it was impossible to assess their sustainability. Progress in institutionalizing a decentralized system of personnel management, however, seems encouraging and also sustainable through the work of the Principal Personnel Officer.

6.4. Recommendations

- a. The MOH should reassess the rationale for decentralization and its achievements, shortcomings and impact on the Swazi health system.
- b. If the MOH intends to continue to pursue decentralization revitalization of the Decentralization Task Force, appropriate staffing of the administrative cadre and integration of national and regional annual planning efforts all require urgent attention.
- c. If decentralization is pursued, the recommendations made in the extensive handing-over notes left by the PHC Project Health Management Associate and those included in the consultant report of Mr. Peter Shipp should be used to guide future decisions regarding its implementation. In particular, the revised Guidelines for the Operation of Decentralized Health Services in Swaziland should be closely studied, amended where necessary, implemented and communicated to the health staff at national and regional levels.

7. PLANNING, BUDGETING, AND FINANCING

7.1. PHC Project Priorities

The negotiations following the MTE emphasized that planning and budgeting continued to be priority areas for the PHCP. It was also agreed that financial management and health care financing should be included as key areas for involvement as the project was refocused. It was further agreed that the major emphasis should be at the regional level, but that in order for regional planning and budgeting to be integrated into the overall Ministry processes, work at the central level was also important.

The following priorities were set for the remainder of the PHC project life:

For planning and budgeting:

- institutionalize meaningful regional planning and budgeting into the MOH system;
- develop and print planning and budgeting manuals;
- assist in updating the manpower plan; and
- assist in producing a health planning and statistics guide.

For financing:

- conduct a user fee study;
- design a pilot scheme to retain user fees in one hospital or health center;
- conduct a unit cost study;
- implement unit costing scheme and the user fee pilot;
- assess MOH financial management and develop improved procedures (including linking financial data with service data); and
- where possible, develop pilot activities in community-based financing.

7.2. Project Inputs

Since the decentralization of health services is integrally linked with planning, budgeting and resource management, many of the project inputs discussed under the previous section on decentralization contributed to health planning and budgeting. The Management Associate assisted the RHMTs in their planning efforts, particularly in the preparation of annual work plans, and also prepared planning manuals. The COP/Planning and Budgeting Associate has concentrated on the further development of the HIS and on health financing and financial management.

Support to improve budgeting procedures has been channelled through the Financial Controller, who has been provided with resources (training costs, stationery, printing costs, etc.) to train regional staff in budgeting procedures and cost accounting. Various consultancies have addressed issues of regional and national planning, personnel planning, financial management, transport management and communications. These are listed in Annex 7.

7.3. Project Achievements

The list of achievements of the PHC project against the indicators and sub-indicators, prepared by the PHCP team, is shown in Annex 3.

All regions are currently producing annual work plans and budgets. A maternal health/family planning three-year plan has been prepared. In addition, the first maternal health/family planning annual program report, detailing the MOH accomplishment and documenting existing constraints, was written and widely distributed in 1989.

Various planning, budgeting and management manuals have been produced. These include the following:

- Introduction to Planning
- Manual for Drafting Annual Regional Workplans
- Regional Personnel Management Policies and Procedures
- Recurrent Budgeting
- Financial Management
- Drug Management
- Drug Formulary
- Clinic Management
- Clinic Operations

(A manual on recurrent budgeting is being updated by the Financial Controller.)

A five-year health manpower plan has been prepared and job descriptions for health staff produced. Numerous regional personnel management workshops have been conducted in all four regions, using the Personnel Manual which includes a section on planning and budgeting for personnel needs.

A comprehensive Transport Study has been completed using a sub-contractor. The report is in three parts: (i) Present Status of Transport (May 1990), (ii) Final Analysis and Recommendations for Transport (June 1990), and (iii) Vehicle Inventory - Updated (July 1990).

A communications study was completed to evaluate the feasibility and cost of repair of all previously installed radio equipment, to assess the communication needs of those clinics which had no telephones, and to devise methods for monitoring and evaluating the communications network.

Three consultant studies on health financing and financial management have been carried out and reports received, some of them still in draft form. These include studies on unit costs, financial management assessment and user fees. Further consultancies are planned on implementing the unit cost system and financial management procedures manuals and on revising fee schedules. A pilot project for Northern Hhohho region on alternative financing methods through fee retention has been developed and approved by the MOH. The Ministry of Finance is still to give the final go-ahead to proceed with the project.

HIS development is closely linked to planning, budgeting and financial management. A Family Health Survey was conducted, providing a wealth of data crucial for planning of PHC services. A computerized regional HIS has been installed for outpatient data. A new inpatient data system has also been installed with reports going directly to HQ. HIS manuals have been prepared. (For further discussion, see the section on HIS.)

7.4. Findings

The MOH lacks clear statements of policies, priorities and strategies that would guide planning efforts at regional levels. The planning capacity of the MOH is very limited with only two staff members in the planning unit, one of them only recently returned from overseas studies. One can not escape the impression that much central planning is donor driven, rather than rising from a thorough indigenous assessment of Swaziland's health status. Very little epidemiologically based health policy formulation or planning is evident either at the national level or in the regions, and most health professionals seem unaccustomed to using the HIS data for planning and management.

The two planning manuals prepared through the PHCP were finished in draft form immediately prior to the departure of the Management Associate in September 1990, and have not been widely circulated. The first, a generic introduction to planning, provides an overview of the planning process, discusses health planning principles and reviews the seven planning and budgeting activities of the MOH, such as the 3-year rolling development plan, five-year manpower plan, annual recurrent budget preparation and regional work plans and vertical program plans. It also outlines an approach for an annual needs assessment. The second manual on regional planning is a documentation of the process that has been used in preparing regional work plans.

The generic planning manual places heavy emphasis on the need to conduct a needs assessment as the first step in the planning process. It lays out guidelines for who should produce such assessments. This includes the Information Sub-Committee of the RHMT, program managers, HQ statistics officer, clinic supervisors and committees, RHACs and hospital management committees. Unfortunately, the manual provides very little guidance as to how these various committees and individuals, most of them unaccustomed to planning and the interpretation of health information, should proceed in conducting such assessments.

The five-year health manpower plan covers the years 1988-89 to 1992-93. Its implementation, however, is 2-3 years behind schedule, partly due to the government's financial constraints but also because it has come under criticism from the Ministry of Labour and Public Service. It should be noted that as a consequence of a recent IMF mission's concern about Swaziland's burgeoning wages bill, the government is currently looking at cutting the size of the public service. While Health and Education may be considered somewhat more favorably than other government ministries, it is unrealistic to expect substantial growth in the health labor force in the near future.

The health manpower plan is currently supposed to be updated by the MOH planning staff. The planned TA under the PHCP was dropped in a revision of the Project workplan, and the planning division has run into difficulties in conducting it with its own resources. Establishing the number of vacancies has proven particularly difficult, since the computerized inventory of personnel has not been maintained and is out-of-date. The Regional Personnel Management Policies and Procedures manual has been distributed, and the Principal Personnel Officer is training regional staff in its use. The annual training plan will be discussed in the training section of this report.

In accordance with the government's budgeting time table, the central MOH requires various returns from the RHMTs during April - August. These include personnel and training needs; capital budget; Basic Needs budget and a revised Basic Needs budget which fits a budget allocation. The RHMTs are required to produce these returns even though they do not yet have a work plan covering the same period. The RHMT's annual workplans are not prepared until February, the month in which the final budget is presented to the Parliament.

Current budget structure does not provide for aggregated regional budgets. While preliminary financial allocation is given to each region by the MOH, budgets are prepared by Responsibility Centres. Thus, budgeting for the so called vertical programs is not integrated with regional planning. In an attempt to address this problem, the program heads were invited to participate in regional planning meetings in January 1990. As discussed before, this was attempted at very short notice and without much success.

The Manual for the Recurrent Budget, prepared initially under the IHAP project, was revised by the Financial Controller with PCHP input a year ago. It now requires some further updating. Little written guidance is available for regional staff on the preparation of the three-year development plan/capital plan, which has not been included in the brief of the PCHP. The Financial Management and Procedures Manual was field tested in the third quarter of 1990 and is awaiting final review by the Financial Controller before printing and distribution.

The transport study took ten months to complete. It indicates that poor management and a lack of priority given to the problems by the MOH are the root causes of transport problems. An Action Plan for Transport Management was drawn up by the PHC Management Associate and the sub-contractor. The reports are currently with the MOH for consideration.

The financing studies undertaken through the PHC project are potentially of great benefit to the MOH. The Unit Cost study links cost data with service statistics for the first time, thus seeking to assess efficiency of health service delivery. The implementation of the Financial Procedures Manual should result in greater accountability. These financial studies and manuals have generated interest in other central government departments, such as the Department of Economic Planning and Statistics, which see them as having implications for other government sectors. However, all these studies are recent, and much will depend on the decisions that MOH and other government ministries make on the basis of their findings. Additional financial consultancies are planned for 1991 to assist with implementation of previous (i.e. 1990) recommendations. These consultancies will be scheduled and coordinated by the MOH's Financial Controller.

Funds were provided under the PCHP to improve communications at rural clinics, and a thorough examination of the communication system done. The Ministry reviewed the communication consultant report, but decided in May 1990 not to implement the recommendations. As a result, USAID reallocated the funds to other Project activities.

The achievements and continuing needs of the HIS system are discussed more fully in a separate section of this report. It should be noted here, however, that no information exists on catchment populations of the various health facilities. As a consequence, existing health information cannot be used to calculate coverage rates. The PHC Project began an attempt to calculate catchment populations, but then abandoned the effort.

Finally, there seems to have been very little contact between the PCHP staff and consultants on planning, budgeting and financial management on one hand and key staff members of other relevant government departments and ministries, such as Ministry of Labour and Public Service, the Department of Economic Planning and

Statistics, and the Department of Finance on the other. This may have been due to institutional constraints, but it is in any case most regrettable. It is these departments and ministries who control the human and financial resources that the health sector needs to function, who can facilitate the institutionalization of any systems developed under the PHC project, and who stand to learn a great deal about the successes and impediments that the project has encountered.

7.5. Project Outputs

As discussed under the section on decentralization, the PHCP has not succeeded in institutionalizing fully coordinated and effective MOH central and regional technical, managerial and support systems. Several steps forward have, however, been taken to reach the anticipated project outputs of an effective decentralized system of planning, budgeting, personnel management, supervision and financial management. A five-year health manpower plan has been developed to provide guidance for regional staffing. The training in annual work plan preparation and budgeting principles has helped regional staff develop into their new roles. The financing studies, the Family Health Survey and the HIS are all yielding new information which is most valuable for further health planning efforts.

Progress in decentralizing personnel management has perhaps been most pronounced, with national staff now training regional managers in the use of the comprehensive regional personnel management manual and extensive reference materials that have been made available through the PHCP. An evaluation of the Regional Personnel System is currently under way.

Several excellent planning, budgeting and financial management systems have thus been developed through the PHCP. However, they are all very fragile and many of them quite recent. It is premature to make pronouncements about their sustainability, except to express concern that without sufficient Swazi government backing in terms of staff and financial resources to carry on the work undertaken so far, much good work may be lost. For this reason alone, it would have been crucial to keep central government departments and ministries fully abreast of the PHC project's efforts.

The second project output stated that an increased proportion of GOS recurrent expenditures for health should be devoted to primary health care, and that mechanisms should be developed for at least pilot efforts to provide extra-budgetary support for PHC programmes. In FY 1985/86, 15.3 percent of the MOH budget had been directed toward PHC activities. By FY 1987/88, this had increased to 17.1 percent (against a target of 17.3 percent). The target for the current financial year has been set at 20.3 percent.

Unfortunately, the MOH was unable to provide data to assess, whether or not it had been reached, at the time of the team's visit. A pilot study on fee retention has been prepared, approved by USAID, and currently awaits government decision on whether or not to implement it.

7.6. Recommendations

- a. The MOH should urgently consider how it might introduce epidemiological considerations into its planning and decision-making processes.
- b. The MOH should increasingly alter its role to take on the functions of national policy formulation, standard setting and evaluation. In order to do this, its planning capacity needs to be improved and lines of communication clarified.
- c. On-going in-service training of regional staff in planning and budgeting should be continued.
- d. The five-year health manpower plan should be updated in close cooperation with the Ministry of Labour and Public Service.
- e. The MOH should consider, and where appropriate, act on the various consultant reports covering the MOH structure, regional and vertical program planning, financing, financial management and transport.
- f. The key government central ministries and departments, most notably the Department of Economic Planning and Statistics and the Ministry of Labour and Public Service, should be made aware of the progress of the PHC project, in particular of the financing, financial management and health manpower planning aspects.

8. HEALTH INFORMATION SYSTEM

8.1. Background

Although the original Project provided for a potpourri of inputs to a variety of health activities, the 1985 PHCP document did not direct resources specifically towards support and development of the MOH HIS. It did, however, posit quantifiable EOPS in terms of increasing service delivery and coverage. The PP also pointed to a need for monitoring of the performance of health programs and feedback to the service level. The original strategy was to carry out a number of operational research studies and monitoring surveys rather than support the development of an on-going institutionalized routine reporting system.

The baseline health and population survey planned for the first year of the PHCP did not receive GOS approval in time to have the activity supported under a centrally-funded AID project. Baseline data to evaluate targets and focus project activities were, therefore, not available as anticipated. A baseline Family Health Survey was finally carried out under the PHCP with assistance from CDC in 1988/89.

The PHCP Planning and Budgeting Associate completed a Health Information System Review in March 1988, and the MTE recognized the importance of developing the capacity of the MOH in this area. The revised project under the Project Amendment identified the HIS system as one of four key areas for PHCP activities. The Planning/Budgeting Associate who also has major responsibilities as COP, as well as in health care financing/financial management, was given the responsibility of the HIS. The position of this advisor was extended to December 1990. The revised PHCP workplan of August 1989 budgeted approximately \$42,900 of local costs to support activities in this area, including dissemination of the Family Health Survey results. Additional PHCP contribution to this activity includes long-term participant training for one B.A. program in Health Statistics/HIS/computer programming.

The recent six-month extension of the project to June 1991 provides that the one remaining LT Technical Advisor will devote fifty percent of his time to the development and use of the HIS.

8.1.1. The Family Health Survey Baseline

The 1988 Family Health Survey was a major contribution to the information base on health status in Swaziland. It is recognized as a very useful reference source.

In addition to the national findings, the PHCP developed regional data, published and distributed these findings through regional seminars attended by RHMTs and in some regions a larger audience of health workers.

RECOMMENDATIONS:

- a. Additional seminars focusing on the implications of these baseline data for specific planning activities should be provided at the central MOH and regional levels.
- b. The FHS should be replicated by the end of the century to document health status changes and to provide needs assessment data for planning health service delivery. Additional data should be collected on antenatal care in a future survey.
- c. Data processing and analysis of future surveys should be carried out in the country in collaboration with Swazi researchers to develop applied research skills.

8.2. Purpose and Applications of HIS

The PHCP Amendment EOPS objective is to have a HIS developed and assisting both the central MOH and regions in reinforcing the decentralization process.

The Project Amendment of May 1989 states that:

The Health Information System being developed is comprised of two components or sub-systems: one which tracks health service and health status indicators, and the other which tracks the flow of resources (including financial resources) to both service and activities.

The emphasis of HIS activities under the Project was to be directed to the regional level in support of decentralization. However, the need to strengthen the central MOH Statistical Unit as an integral part of the HIS was recognized.

Parts of a HIS were in existence prior to the PHCP. In 1980, a new HIS was pilot tested in Mankayane District, but data processing continued to be done by hand. By 1985 the MOH had extended the health information system to the entire country and outpatient data were being processed on a computer. (World Bank, 1985). By 1987, the system was no longer operational. The PHCP initially expended resources to renovate the system and put it back on line. Problems persist with data files from 1983 and 1984 which were entered on Serius systems and are not retrievable.

The main PHCP HIS activity has been to further develop the outpatient database and reporting system, transferring data entry and information availability to the regions. Regionalization began in May 1988 with data entry first being transferred to Manzini Region.

Outpatient data collection has been systematized and flows from outreach sites, clinics and outpatient units to regional HIS for data processing. Copies are made for the central MOH for distribution. An IBM compatible computer system has been installed in each of the four regions and the PHU. Two of these systems were purchased with PHCP funds while others were provided through collaboration with CCCD and WHO. Data entry clerks have been trained, and a system of data collection and data processing using dBASE III has been routinized to provide outpatient service statistics from health centres, clinics and outreach sites on a timely basis. Data are available on a monthly basis for regional HIS committees and RHMTs for individual facilities as well as regional summaries.

Data are currently compiled at the regional and national levels for outpatient morbidity visits, antenatal care, family planning visits, child welfare, growth monitoring and immunizations, health education sessions and home visits. A volume of summary data was

published for the first five months of 1990. National summary data for outpatient morbidity and immunization are available for 1983. Regional data sets for outpatient morbidity visits, immunization, antenatal visits and growth monitoring are accessible for the years 1985 through 1989. Data for 1984 is in a format which cannot be accessed by systems in the MOH although regional and national totals have been published.

Some data analysis is available in the form of graphs for a set of key indicators identified first in Manzini Region. Preset graphs can be routinely produced in several regions and at the MOH Statistics Unit. A profile of ARI utilizes data from a four-year period and provides important descriptive analysis of available HIS data related to ARI epidemiology.

Additional information systems are being developed independent of the HIS by the bilharzia and malaria programs. Italian assistance has facilitated an inpatient data base and reporting system. The HIS Associate has provided important input to consultants for these activities in an attempt to assure compatibility of files so that integration of data sets will be possible.

Some additional resource tracking components of the HIS/MIS have been developed mainly outside of the PHCP, although with some peripheral support for hardware installation and training. These include the Personnel Inventory and Nursing Roster. A facilities file is available for outpatient units. Assistance for budgeting and accounting systems has been provided under the PHC as well as pharmaceutical MIS at the clinic level. A transportation study was undertaken and an inventory of vehicles produced as a dBASE file. The MOH has not yet adopted this system and is not utilizing the inventory. The reasons for this inaction are unclear.

The HIS efforts so far have developed several components for a system which would be capable of tracking both health indicators and flow of resources. However, these individual components are not integrated with each other into one system, and very little use is made of data for decision making.

8.3. Data Collection

8.3.1. Outpatient Data Collection

Outpatient data collection formats and systems have been reviewed and revised with significant assistance from the PHCP, and health personnel have been trained in using the revised reporting forms. Follow-up has been provided in each clinic. Standard definitions of diseases have been provided for morbidity reporting. A draft of a manual of instructions for completing the revised forms has been circulated for comments.

Outpatient data collection forms are generally being used in clinics as designed, with tallying taking place as each patient is attended. In a few instances where a single NA is in charge of all clinic activities, tallying is done at the end of the week on the basis of the patient registry. Nurses and NAs report that some savings of time have been accomplished with the new formats. The draft manual of instructions for completing forms should be simplified, formatted and indexed as a reference document.

Many additional reporting activities are carried out which are not currently compiled or utilized, for example, the Home Visit Census Forms and various hospital statistics that are currently sent to the MOH and archived there without analysis. Most of these additional data sets are not important enough to merit their inclusion in the computerized HIS.

RECOMMENDATIONS:

- a. Additional review of the myriad of record keeping and reporting activities is desirable to further simplify reporting as well as to provide more useful information. For example, STDs are grouped under "genital disorders" while it would be useful at least to distinguish "ulcerous" and "non-ulcerous" forms. In other cases, it may be possible to collapse or eliminate categories to simplify reporting and data interpretation without losing key information. Entire reporting forms could be eliminated if data are not compiled and utilized.
- b. The next round of summary report forms should be designed to facilitate data entry as well as more accurate recording.

8.3.2. Family Planning Data Collection

Family planning data have been incorporated into the outpatient summary reports. This major accomplishment of the MOH's MCH Core Group was facilitated by technical assistance from FLAS' resident advisor and UNFPA.

Health workers report some need for clarification of these forms as well as the desirability of incorporating a record-keeping system for tracking monthly inventories of contraceptives at the outpatient facilities.

RECOMMENDATION:

- a. The family planning reporting system should be revised to facilitate the nurse's ability to readily track the distribution of family planning supplies in addition to services provided to clients. Information on clinic-level contraceptive inventories should be reported monthly in the HIS.

8.3.3. Use of Graphics

Training in graphing techniques was provided to outpatient personnel in 1987.

A number of the health workers trained in graphing techniques still serve in rural posts and continue to graphically display their current statistics regarding EPI, ARI and family planning.

RECOMMENDATION:

- a. Future reporting systems could be designed using double-fold paper so that tallying could serve the additional purpose of creating a bar or histogram segment. These could be collaged each month to a cumulative wall display for the clinic for selected indicators. This would save time for personnel as well as encourage use of data at the outpatient sites.

8.4. Reporting Systems

Regional systems are in place to track reporting by outpatient facility for each of five different activity areas - morbidity, immunization, family planning, antenatal care and child health/growth monitoring. All facilities do not report consistently, and 100 percent reporting has not been achieved. The Health Planning and Budgeting Associate has devoted some attention to data verification and investigating outliers (data points that lie outside the expected range).

RECOMMENDATION:

- a. The HIS should routinely report, in easily understandable form, a summary of facilities reporting and not reporting, by facility type and by HIS component.
- b. The MOH should require reports from all facilities, including company clinics, and should institute a system to follow up non-reporters, to check data accuracy, and to flag and check reporting anomalies.

8.4.1. Facility Data

A facilities file exists in each region for health centres, clinics and outreach sites with basic information including address and phone number, supervising hospital, whether it is a government, mission, company sponsored or private facility and the types of services provided.

RECOMMENDATION:

- a. The MOH should revise the facilities file. This includes updating information already on file, adding some new data items and developing a computer program that will allow the manipulation of facilities files in conjunction with other HIS data files, so that data could be reported for different types of facilities such as government versus mission, facilities offering family planning, outreach centres compared to clinics, etc.

Additional data items to include are:

- the staffing pattern, including post vacancies,
 - availability of basic services (electricity, running water, telephone),
 - the existence of food programmes,
 - functioning community health committee, and
 - number of active Rural Health Motivators.
- b. Facilities files should be used as a planning and monitoring tool, for example for upgrading clinics and nurses' accommodations. Needs, repairs planned and when repairs were completed should be recorded on a compatible database file linked to the basic facilities file.
 - c. Key facility data should be displayed on maps. These should be included with regional and national summary reports. Wall maps would be useful tools for RHAs, Clinic Supervisors and others.

8.5. Staffing

Regional HIS data entry clerks have been "borrowed" from other positions ranging from orderlies, secretaries, and account clerks to nurses. Some of these key trained people may be transferred to other units.

The job category and salary level of a person trained in computer applications, such as dBASE, Lotus and wordprocessing, is not adjusted to acknowledge these skills while a secretary who learns stenography is upgraded.

At the current time, the Statistics Unit of the MOH is staffed by two junior clerks who were former PHCP employees. One serves as a data entry clerk for inpatient data and is currently entering data for January of this year. The other is very knowledgeable about the outpatient HIS and is the only MOH person available to facilitate the flow of data from regional to central level and to produce national summary reports as well as do some troubleshooting. In addition, he must assist in the delivery of report forms to outpatient sites when regions cannot perform this task.

This person is also co-opted for other activities, such as sample surveys, because of his experience. Both data clerks incurred a 50 percent reduction in salary when they were hired by the MOH in July of this year and find this a major disincentive.

Important collaboration with the CSO resulted in a Statistician being seconded to the MOH's Statistical Unit when it was separated from the Health Planning Unit in April 1990. This Statistician, who was the COP's HIS counterpart, has now left for a year of training abroad. Reportedly, this position will possibly remain vacant for the next year until his return. In the absence of the Statistician, the two data clerks report to the Undersecretary who is also temporarily on leave for another assignment.

The Statistics Unit does not have its own budget.

RECOMMENDATIONS:

- a. The Statistics Unit should be a separate Responsibility Centre with staff and budget.
- b. An epidemiologist should be recruited for the Statistics Unit to develop appropriate data analysis formats and provide meaningful interpretation of available statistics. It would be highly desirable to recruit this person immediately so as to provide a counterpart for HIS work for the remaining LOP and to facilitate HIS sustainability.
- c. Regional and central level positions should be established for data entry personnel, which are commensurate with the knowledge and skills required and which provide remuneration adequate to ensure the retention of qualified staff.
- d. If the MOH intends to pursue decentralization, four Regional Information Officer (RIO) positions should be created and filled as soon as possible. In some cases, an appropriate person may already be employed with HIS functions, for example, the nurse who is involved with the Shiselweni HIS. It would be desirable for the RIO to have a medical background so as to develop meaningful data interpretations and reports for the technical staff as well as to develop regional MIS activities for administration.

8.6. Short-term HIS Training

Prior to the MTE, two participants attended a one-week HIS course in Boston. Health service workers were taught basic graphing techniques using clinic-generated data. HIS study tours to

Botswana and Malawi were organized for the Health Planner, a previous Health Statistician and the Planning/Budgeting/HIS Associate in 1988.

Since the MTE, extensive in-service computer training courses have been provided to a wide variety of MOH staff and HIS data entry personnel with follow-up and one-on-one assistance at the work sites.

Short courses have been provided to secretaries in word-processing, and to Finance, Personnel, Health Planning and Statistics Unit staff in DOS, Lotus 1-2-3 and dBASE III. Several levels of training have been provided in each software application. A large number of manuals have been produced by the PHCP and provided to each person receiving training as well as to each work station.

Data entry clerks have been trained for routine data entry and report generation using a menu driven dBASE system as well as production of graphs using Lotus 1-2-3. Summary statistics generated from dBASE must be reentered into the Lotus file to produce preset graphs. Some data entry clerks have the ability to create additional graphs.

In each region, at least two data entry clerks have been trained in the use of HIS dBASE data entry and reporting as well as LOTUS and in some cases wordprocessing. The level of competence exhibited in each region depends on the amount of experience the clerk has had with the computer system, the person's background and support from supervisors.

All staff keep orderly files and regularly back up the data sets. Very few troubleshooting skills currently exist for software or hardware problems in the regions and little at the central MOH.

A special course was designed for top MOH managers in the use of computers for management. The personnel inventory was used for concrete examples and practical data manipulation exercises.

In the computer training activities, the use of actual data sets and appropriate examples of applications is stressed.

RECOMMENDATIONS:

- a. On-going in-service training for regional as well as MOH HIS personnel should be provided. Resource persons within country should be used, whenever feasible. If a trainer is brought in from abroad, consideration should be given to opening the course to a limited number of local computer training persons to develop a local capacity to provide additional support after the initial course as well as to transfer new training methodologies.

Such training should include:

- data verification, (A system of range checks might be set up to flag some erroneous reporting.)
- dBASE III and troubleshooting,
- elementary applied statistics (for central MOH Statistics and Planning personnel).

HIS data should be used in this training whenever possible. Care should be taken to start with concrete, simple examples of applied statistical analysis with emphasis on appropriate interpretation of data which have practical applications.

- b. Monthly meetings for the HIS data entry personnel should be organized to facilitate the opportunity to learn from each other and to provide mutual support.

Monthly workshop meetings could profitably be scheduled rotating from region to region with "user group activities," including "show and tell," problem shooting and short-course training activities, scheduled to meet the needs and interests of the group. A pilot "workshop" could be scheduled in Hlatikhulu where the HIS is well advanced and could provide examples of data processing and analysis activities. Comparison of reporting rates and strategies to attain 100 percent reporting might be a first topic. Data entry persons from the PHU as well as vertical programs should be included in the "Health Computing Users' Group."

8.7. Long-term HIS Training

The 1985 PHCP agreement provided for one person to be trained in Health Statistics at the bachelors level for three years. By mid-term evaluation, this was defined as four years of training in HISS. A project extension to June 30, 1991 was granted to enable this trainee to complete his course of study within the PHCP time frame. The trainee is currently starting the fourth year of undergraduate training, majoring in Computer Science directed toward Business Applications at a HBCU institution.

The program of study undertaken by the training participant has deviated from the originally identified need for the MOH. The current computer programming curriculum, which is not related to HISS nor epidemiological analysis nor utilization of available software, such as dBASE III and statistical packages, is not very relevant to the needs of the MOH. A program offering courses in health statistics and HISS would have been more appropriate. An interest in placing the participant in a certain type of institution may have precluded the identification of the most useful program of study.

Neither the MOH nor the PHCP has kept the participant in touch with the activities in the MOH Planning or Statistics Units. The participant does not have a clear job description nor expectations of the situation within the MOH upon his return. The participant has expressed an interest in being involved in some project or activity of the MOH which he could pursue as an independent study or subsidiary activity during the remaining semester in the U.S., as most course work has been completed.

RECOMMENDATIONS:

- a. Opportunities should be provided to the participant trainee during the remaining time in the U.S. for practical experiences and internships related to HISSs, health statistics and data interpretation, or MIS applications.
- b. The trainee should have advanced training in dBASE III programming as well as the use of statistical packages such as EPI-INFO and SPSS for statistical data analysis.
- c. The PHCP should provide communication about the substantive activities of the HIS. It would be highly desirable to have the participant return to Swaziland for a one-month period between semesters (approximately December 15 - January 15) to become reacquainted with the activities of the MOH, negotiate a job description in light of the separation of the Health Planning and Statistics Units, and develop a proposed outline for a project which could be pursued in the U.S. as an independent study, for example, further analysis of the Family Health Survey data utilizing a statistical package available at the MOH, or a preliminary design of a reporting system of Notifiable Communicable Diseases.

8.8. Development and Integration of Additional HIS Applications

In addition to the outpatient service delivery statistics, inpatient reporting systems have been developed with assistance from the Italian Medical Mission. The PHCP has supported this activity by providing a data entry clerk who has not been transferred to the MOH Statistics Unit. It has also recently provided some in-service training to data entry clerks in two regions, Shiselweni and Hhohho, with the intention that inpatient data entry will take place in the region providing more timely inpatient data availability to hospital administrators and RHMTs. New ICD codebooks are awaited, and additional training in coding is required before regional inpatient data entry can commence in the two regions.

Any suspected cases of communicable diseases are required to be reported to the Director of Health Services Office. Diseases which require immediate verbal notification of a medical officer and completion of a form include diphtheria, cholera, plague, polio, rabies, typhus and yellow fever. Communicable diseases which require only completion of a form include anthrax, typhoid, food poisoning, infectious hepatitis, leprosy, measles, meningococcal meningitis, relapsing fever, neonatal tetanus, tetanus, trachoma and tuberculosis. The system of Notifiable Communicable Disease Reporting is not currently functioning satisfactorily.

A computerized personnel inventory system and a nursing roster were developed outside of the PHCP. The Project has provided some support to maintain and rehabilitate these systems which have been utilizing computer equipment in the Computer Library. At the present time, neither of these important manpower systems is being kept up-to-date or utilized. A vehicle inventory has not been adopted. Computer facilities for the finance office are not being utilized as planned to link planning and budgeting activities.

A scope of work for a central MOH HIS Committee has been drafted and presented to the senior MOH officers.

RECOMMENDATIONS:

- a. The MOH should create a HIS committee at the central level. It should have two main functions: (1) to oversee the development, integration and utilization of the HIS, and (2) to develop appropriate supervisory structures for statistics staff.
- b. The HIS should be revised to include regular reporting of selected routine data from the malaria and bilharzia programs.
- c. The MOH should institute the publication of a quarterly newsletter with the interpretation of key information and items of interest to a wide range of health service personnel and other interested users.

8.9. Software

The first HIS reporting system was developed in Manzini region utilizing Lotus 1-2-3 with the ability to produce graphical presentations of key indicators identified by RHMT members. This system was reproduced in Shiselweni. The Medical Officer in this region expressed a desire for a larger data base so a second generation HIS was designed in dBASE III.

Additional MOH applications for the Personnel Inventory and the Nursing Roster utilize dBASE. A Vehicle Inventory has also been developed in dBASE.

The current HIS data entry and reporting system was developed with assistance from a dBASE programmer in St. Kitts after attempts to work with a local firm were not successful. Several small problems with the system have been recently identified as well as desirable modifications to make reporting more flexible and formats more usable.

The PHCP has produced four manuals for the use of the HIS outpatient and inpatient systems and documentation of the file structures. The PHCP has provided a large quantity of documentation for the software which was procured under the CCCD project. These are available in all regions and in the Statistics Unit of the MOH, as well as at the work stations of all personnel trained in computer applications.

Wordprocessing software (Multimate Advantage) has been provided and is utilized extensively in some locations, such as the PHU.

The Statistical Package for the Social Sciences (SPSS) is available for data analysis (including Data Entry, Advanced Statistics and Tables), but is not being utilized. This software was purchased for analysis of the Family Health Survey data and was used for data cleaning, but the analysis was done at CDC Atlanta utilizing SAS and SPSS.

EPI-INFO software was utilized by the Italian consultants for the analysis of inpatient data but this was not done in country and no skills or software were transferred to the MOH.

The CCCD project plans to provide EPI INFO training in November 1990.

RECOMMENDATIONS:

- a. Local expertise and familiarity with the current MOH system should be developed to provide support for HIS system modifications and troubleshooting.

8.10. Hardware

Each region has a single IBM-compatible computer system including a printer and UPS. The hardware configuration is appropriate for the current applications at the regional level. As additional applications are developed in the future - personnel rosters, accounting, word-processing, etc., regional offices will be more dependent upon computer systems. It will then be desirable to provide redundancy in terms of a second system in each region so that if a system is sent for repair, one system will be available.

A recent consultancy on computerization has identified 27 PCs in the MOH. Of these, two systems are used in the Statistics Unit, two systems are available in Health Planning, one in the Under-Secretary's office and one in the Senior Health Administrator's office (now vacant). The system in the Financial Controller's office is connected as a terminal to the Ministry of Finance's mainframe. Four systems are located in the Computer Centre Library, which was set up by the PHCP for analysis of the Family Health Survey. These are now available for use by secretaries and others for wordprocessing and additional applications. The Personnel Inventory and Nursing Roster are on these systems. Many of these systems seem to be used minimally. A system at the PHU is used extensively, especially for wordprocessing, and additional systems exist in the Bilharzia and AIDs Programmes. The PHCP project has three additional systems which will be turned over at the EOP.

The MOH and the regions have a budget line item for computer maintenance. Computer hardware service is being handled by a local firm. Two systems have been in for maintenance since the MOH assumed responsibility for service in July of this year. More hardware problems can be anticipated the longer the systems are in service.

RECOMMENDATIONS:

- a. A computer system should be relocated to the Personnel Office to facilitate the updating of the Personnel Inventory which is several months out of date. Steps should be taken to protect the confidentiality of the individual files.
- b. At least one backup computer system should be made available at the center to loan to regions when regional systems require repair.

8.11. Data Analysis, Interpretation and Reporting

The PHCP has recognized the importance of data interpretation and has emphasized the graphic presentation of data. Clinic health workers were trained in graphing techniques before the MTE.

A key set of indicators was identified in October 1988 by the RHMT in Manzini. The outpatient data system was first designed to easily produce a number of predetermined graphs which would be updated monthly. At the present time, graphs can still be produced with the pre-programmed Lotus system or with Harvard Graphics by some of the data entry clerks.

Sessions with regional HIS committees and a Health Centre Medical Officer and nurses have been scheduled upon request to discuss outpatient data and graphic presentations.

While regional HIS are capable of producing reports for individual facilities as well as graphs, there is no systematic feedback to the clinics and outreach facilities in three of the regions. In Shiselweni, the Medical Officer makes regular visits to the clinics and does take printouts of the data for each facility to discuss and leave with the health workers.

Many database printouts and graphs are being produced, but little interpretation is being provided except in cursory oral presentations. The ARI profile is a first attempt to analyze HIS epidemiological data and provide meaningful analysis. A consultant report on health service fees utilized available HIS service delivery data, providing an example of management applications of the available data sets.

There are separate programs for the main communicable diseases, but there is no epidemiological unit overseeing them all. There are no Statistics Unit staff currently available who can analyze and interpret the available data.

Health facility catchment population was estimated in 1985 but is not utilized.

RECOMMENDATIONS:

- a. Supervision and assistance from an epidemiologist is needed to provide assistance with data analysis. This includes developing useful analysis formats and providing examples of appropriate and meaningful interpretation and information use.
- b. A smaller number of key indicators should be focused on for routine reporting, graphic presentation and interpretation. It is imperative that a short, clear description of the data be presented with each table and graph. Tables should be presented with only the data for a single topic or comparison. Ideally, each table would be accompanied with a graphic presentation and descriptive narration.

- c. A didactic publication using actual data and emphasizing interpretation and exemplary decisions which could be based on these findings should be prepared and distributed widely. Ideally, this could be in the form of a monthly or quarterly newsletter to health workers with each issue dedicated to one specific subject. A worksheet with step-by-step instructions for replicating the analysis with data from the health worker's region (or facility) should be included. These modules could be accumulated in a binder to form a manual on data interpretation and utilization.
- d. At the central MOH and regional HIS levels, priority should be given to working with the databases presently available, focusing on a few selected indicators, developing facility with interpretation of tables and graphs and learning to ask appropriate questions. Greater ability and experience with manipulating the present data files is needed so it becomes easy to produce reports, for example, of services provided by different types of facilities, such as clinics compared to outreach sites.
- e. Data from each reporting unit should be used during clinic supervision to identify problems, provide feedback to clinic staff and compare the performance of individual clinics. Reports should be carefully scrutinized by each health worker responsible for reporting to eliminate data entry or reporting errors. A system of notification of errors to the regional HIS should be clearly established.

Comparative analysis is a useful tool and feedback should be provided not only for single facilities but periodically with some additional data for other facilities or regions for comparison. The PHCP has done this on a limited basis. A reporting system providing comparative data for key indicators by regions, types of facilities and over time should be developed.

- f. Catchment area populations should be estimated on the basis of the recently published 1986 census data if resources are available.
- g. It would be desirable to incorporate key data about the homesteads and settlements which make up the catchment area, in addition to calculating the basic demographic statistics. A simplified community profile could be developed to describe key factors about the settlements from which clients of the clinics are drawn. Data should be limited to publicly known contextual "settlement level" characteristics related to health status, which could be reported by long-term resident key informants,

such as the availability of educational facilities, traditional healers, potable water, electricity, environmental sanitation, irrigation and agricultural activities, land tenure, food security, industrial employment, migration, etc. RHA's and community health committees might be employed in identifying the settlements from which clients come to a health facility as well as the profile of these settlements.

- h. The MOH should seek to collaborate with the Central Statistics Office to obtain assistance with data analysis, establish catchment area populations and incorporate key health indicators in national statistical summaries.

8.12. Data Utilization

Regional HIS data are not being well used for supervision or decision-making by RHAs or RHMTs.

The CCCD Project Technical Advisor is utilizing some data from the outpatient monthly reports to assist supervisors in selecting clinics exhibiting high incidence of targeted diseases for follow-up visits.

National level data are not used for health planning or management decision making. Neither are available data utilized to assess the attainment of the national health objectives.

No base population (catchment population) is currently used to estimate health service coverage.

RECOMMENDATIONS:

- a. The interpretation of epidemiological data should be consolidated and brought into the health planning system more explicitly. Focusing on service delivery and manpower planning is an ideal first step as the Assistant Health Planner is currently involved in this activity.
- b. Additional assistance and support is needed for regional data processing and analysis activities. Coaching in the interpretation and utilization of available epidemiological and service delivery data is desirable for regional HIS committees and RHMTs.
- c. Intersectoral collaboration with other Ministries such as Agriculture, Education, Local Government and Justice is desirable to promote greater use of available health data. Statistics from growth monitoring can be useful indicators for monitoring food security and the impact

of agricultural programs. The vital statistics collected by the Ministry of Justice could be compared with MOH statistics on births and deaths in an effort to strengthen and reconcile these reporting systems.

8.13. Summary

Major components of HIS in the form of outpatient epidemiological data and service delivery, an outpatient facilities file, inpatient epidemiological data and a personnel inventory and a nursing roster are in place at the national level. The outpatient epidemiological data and service delivery data systems and facilities file have been established in all four regions.

Priority should be given to the maintenance and utilization of these available information bases.

The Personnel Inventory and morbidity data should be used to develop rationalized staffing patterns. Health Planning and Finance should collaborate more closely and use the available epidemiological data.

The personnel inventory and nursing roster should be decentralized to the regions in addition to the inpatient data systems as resources in terms of RIOs or dedicated data entry positions become available. Likewise, the vehicle inventory system would be a useful monitoring tool.

Once these information system components are consolidated, attention could be given to developing a training database as an integrated part of the manpower component, and to data bases on budgeting and tracking of additional resources, including pharmaceuticals and supplies.

The 1988 Health Information System Review remains a valuable document and should be a useful guide for implementing future HIS activities.

9. SUMMARY OF ACHIEVEMENTS RELATIVE TO THE EOPSES

In the short time since the MTE, several valuable PHCP activities have been carried out, with a number of the Project's most important inputs having taken place in the last year. However, many challenges remain.

The first of the End of Project Status (EOPS) Indicators states that by the end of the Project, the MOH central and regional technical, managerial and support systems should be operating in a coordinated and effective manner re-enforcing the decentralization process. While decentralization is subscribed to by many health staff, many policies and procedures remain to be worked out. The PHCP has provided valuable inputs to clarify these

issues and to assist in the implementation of their solutions. Several useful finance and budgeting studies have been undertaken and are currently being circulated within the MOH. The EOPS has not been reached, however, because the level of GOS staff resources, capabilities and leadership have been insufficient to institutionalize Project inputs. The prolonged illness of the PHCP Management Associate also resulted in some loss of momentum.

The second EOPS anticipated a health and management information system that would be utilized at both central and regional levels to plan, monitor and evaluate PHC service delivery. At the national level, the major components of HIS are in place; these include outpatient epidemiological and service delivery data, an outpatient facilities file, inpatient epidemiological data, a personnel inventory and a nursing roster. All four regions have outpatient epidemiological and service delivery data and a facilities file. While data are now available on a timely basis for the use of health staff, they are not in a format which would facilitate their use for planning, management and evaluation purposes. Regular data processing is recent, and the PHCP has not had enough time to make a sufficient input to assisting health managers in data interpretation and utilization for decision-making. There is, in fact, no mechanism for reviewing and interpreting the data or incorporating it into a decision making process. It would be highly desirable to recruit an epidemiologist for this purpose. System support for the computers also needs attention. There are serious concerns about the sustainability of the HIS within the present staffing of the MOH.

An increase of at least 25 percent in utilization of MCH and FP was set as the third EOPS. However, the "preventive and curative services at clinics, public health units and health centres," which this 25 percent was to represent, were never specified; neither was the base line figure. Thus it is not possible to say whether or not this EOPS was achieved. There have been large increases in utilization of some services, such as immunization coverage of children, tetanus toxoid vaccinations of pregnant women and average number of antenatal visits per woman. Contraceptive prevalence has also been found to be higher than expected. However, various donor-supported projects have contributed to these improvements; it is not possible to attribute the increases solely to the PHCP.

While the Swazi PHC delivery system has many strengths, the severe staff shortages prevent it from fulfilling its potential, particularly as regards attended deliveries and child spacing. The shortages are aggravated by the fact that young nurses are abandoning or refusing rural service. The staff shortages are of such magnitude that they seriously compromise the utility of many other inputs. This area requires urgent attention by the GOS.

The fourth EOPS envisioned more productive, better motivated and skilled health workers, providing an increased quantity and quality of PHC services. Productivity, skills, motivation, and quality are, of course, difficult to assess, no mechanism for doing so was instituted under the Project, and there is no baseline from which to measure progress. (Difficulties with measuring service quantity and with attributing results to the PHCP are noted above.) Thus, the evaluation team cannot conclusively say whether or not this EOPS was attained. However, the team believes that progress was made. The clinic management component of the Project has provided many useful inputs to improve both the quality of services provided and the appropriateness of allocating tasks between SNs and NAs. The commodities, especially vehicles for clinic supervisors and the laboratory equipment, have been put to good use. The improvements in clinics and in nurses' accommodations seem to have increased the motivation of nursing staff. While the Project inputs to improve housing have been useful, they fall far short of what is actually needed. Further inputs may not be possible with present GOS resources.

The clinic-based training seems to be an extremely useful combination of theory and practice. While the system for continuing education through the CBT is, in principle, sustainable within the resources available to the GOS, it is unlikely that this can be continued with the current level of inputs that the MOH has made available.

The fifth and sixth EOPSeS focus on in-service training for nursing staff. National and regional training strategies were to be developed to emphasize sustainable, competency-based training in priority PHC areas. Training approaches were to be made consistent with the content. In addition, mechanisms for on-going training needs assessment, monitoring and evaluation of training were to be established. While the clinic-based training, set up through the PHCP, is an excellent model of competency-based, in-service training, it has not yet been accepted as either a national or a regional training strategy. Its sustainability depends on developing a training system, including curriculum plans, logistical plans, evaluation instruments and motivated training personnel. There is considerable concern about the capacity of the MOH to sustain the CBT, once the PHCP closes. Thus, we cannot say that these EOPSeS have been achieved.

Finally, an attempt was made to quantify Project achievements against the objectively verifiable indicators (OVIs), as set out in the Project's logical framework. The unavailability of appropriate data seriously hampered this effort. It was established that 77 outreach sites were set up, against a target of 49. It was estimated that close to 100 percent of clinics offered priority PHC services (against a target of 75 percent), with services available five days a week (instead of once a week, as had frequently been the case earlier). At least 75 percent of

clinics were estimated to be using PHCP-developed manuals, thus reaching the target. However, the target of 40 percent of clinics with functioning community health committees was unlikely to have been met. The training of clinic nursing staff in CBT and clinic management has already been diluted by rapid turnover and is unlikely to be sustained. It was not possible to assess the proportion of rural clinics with home visits, and the evaluators doubted the importance of stressing this strategy in the face of the staff constraints. While half of the clinics and health centres were expected to perform critical PHC tests at the end of the Project, only simple urine tests are done at that level. Supervisory visits occurred once in two months on average, instead of monthly. Financial data for the current fiscal year were also not available, and it was not possible to establish the proportion of current MOH expenditures spent on PHC.

ANNEXES

ANNEX 1: SCOPE OF WORK

ATTACHMENT I

STATEMENT OF WORK FOR FINAL EVALUATION

SWAZILAND PRIMARY HEALTH CARE PROJECT
(645-0220)

I. BACKGROUND

The goal of the Primary Health Care (PHC) Project is to improve the health status of Swazi children under five years of age and women of childbearing age. The project purpose is to assist the Ministry of Health (MOH) to improve and expand the primary health care system in Swaziland, with emphasis on maternal and child health and family planning. The Project assists the MOH in its efforts to decentralize primary health care services and increases productivity of health care workers. The approach taken in this project was to identify with the MOH, a limited number of key areas within primary health care which, if given priority attention, would make a substantial impact on maternal and child mortality and morbidity in Swaziland. The major objectives of the project are to improve and expand clinic-based and outreach services; to increase the effectiveness of primary health care workers, particularly those working in the areas of maternal and child health; and to strengthen regional administrative and management capabilities.

A mid-project evaluation of the PHC project was conducted in September 1988. The evaluation team recommended that project activities be prioritized and the workplan be streamlined so that overall activities would be manageable in scope and quantity. In May 1989 Project Paper and Grant Agreement Amendments were approved, indicating that Project resources will be concentrated in four areas; Clinic-based and outreach services; decentralization; planning, budgeting, financial management and health care financing; and the health information system.

End of Project Status (EOPS) Indicators

The end of project status indicators to be achieved by December 1990 are as follows:

1. MOH central and regional technical managerial and support systems operating in a coordinated and effective manner, reinforcing the decentralization process;

2. Health Information System being utilized at both central and regional levels to plan, monitor and evaluate PHC service delivery; and similarly to provide information for MOH budgeting and financial management processes;
3. Utilization of Maternal and Child Health and Family Planning preventive and curative services at clinics, public health units, and health centers increased by at least 25% overall;
4. More productive health workers whose motivation and skills levels have increased, and who are providing both increased quantity and quality of priority PHC services at clinic and community levels;
5. In-service training programs for nurse/midwives and nursing assistants coordinated so that the training approaches and content in priority PHC services will be consistent;
6. National and regional in-service training strategies developed and implemented, emphasizing sustainable, competency-based training in priority areas, as well as mechanisms for both ongoing training needs assessment and systematic monitoring and evaluation.

Project Outputs

1. Improved outreach and service delivery approaches.
 2. Improved skills and motivation of health workers, brought about by improved conditions of service, improved transport and communications, and improved supervision and management support.
 3. A decentralized system of planning, budgeting, personnel management, supervision and financial management in place and operating effectively at MOH headquarters and in the regions in accordance with approved regional workplans.
 4. An increased proportion of GOS recurrent expenditures for health devoted to PHC and mechanisms developed for at least pilot efforts to provide extra-budgetary support for PHC programs.
- 92

Project Activities

The Project supports activities of three different types: (1) those directly related to improving service delivery, (2) those related to supporting health service providers, and (3) those related to improving management and support systems. These are summarized as follows:

1. Activities related to primary health care services:
 - prenatal care
 - attended deliveries
 - postpartum education
 - immunizations
 - growth monitoring
 - child spacing
2. Activities which directly support service providers:
 - training
 - transportation and communication
 - laboratory services
 - clinic management
3. Activities providing management and systems support:
 - decentralization
 - coordination of maternal and child health programs
 - planning, budgeting and financial management
 - research, monitoring and evaluation
 - health financing
 - nursing education

II. EVALUATION SCOPE OF WORK

ARTICLE I: Title

Swaziland Primary Health Care Project
(645-0220)
Final Project Evaluation

ARTICLE II: Objectives

1. Review the appropriateness, timeliness and quality of inputs of the Project and the host country. Provide a descriptive analysis of the project status relative to the inputs.

2. Review project outputs, quantify progress made towards achieving output indicators, and provide a detailed explanation of those areas where project outputs have exceeded or are not likely to achieve targets.
3. Review the project purpose and assess the extent to which project inputs and outputs are, or are not, leading to the achievement of the purpose and the EOPS indicators by the project assistance completion date (PACD).

ARTICLE III. Scope of Work

The Contractor will perform a final evaluation from the beginning of October and through early November 1990. The evaluation team will be composed of four full-time members provided by the Contractor, with background and expertise consistent with the focus of the evaluation, plus one USAID HPN Officer..

Prior to arrival in Swaziland the Contractor's team will meet with Management Sciences for Health (MSH) staff in Boston, Massachusetts to review the Project Contractor's home office support and operations for this project. The team will also meet with staff of the Project Subcontractor, The Charles R. Drew University, in Silver Spring, Maryland to review its home office support and operations. In Swaziland the team will meet with GOS officials, representatives of other relevant organizations and agencies, the MSH long-term TA team and USAID officers.

The evaluation team will begin work in Swaziland on October 5, 1990. the team will coordinate its work through the Health Office of USAID. In carrying out its task the team will review Project and GOS reports, workplans, and documents as well as other relevant materials; meet with GOS officials, representatives of other relevant organizations and agencies, the MSH long-term TA team and USAID officers; and make selected site visits together with MOH and TA team members.

The evaluation team will present a full draft report (20 copies) and an oral briefing to USAID and GOS officials not later than October 26, 1990. GOS and USAID officials will provide comments on the report not later than October 30, 1990. If required, one member of the team will remain in Swaziland for up to one additional week to incorporate any necessary changes in the draft and submit a final evaluation report (20 copies) prior to his/her departure.

In working to achieve its objectives, the evaluation team should focus on the following specific topics:

1. Are the quality and quantity of AID Project inputs adequate for the achievement of the Project's outputs and EOPS during the remaining life of project? Is the absorptive capacity of the MOH - the availability, timeliness, and quality of MOH inputs - adequate to achieve the Project's outputs and EOPS during the remaining life of project?
2. Have the activities described in the Project Paper Amendment being carried out? What has been the impact of these activities in relation to Project outputs and EOPS? Are critical PHC Program functions being institutionalized through the Project so that they will be sustained after the Project ends? To what degree do personnel at the MOH headquarters and at the regional and clinic levels share a common concept of, and support of, such project activities as planning, budgeting, clinic-based training, decentralization, etc?
3. Has the GOS Primary Health Care Program in Swaziland improved since the PHC Project began? Does the MOH have the ability to track and measure change in the utilization of PHC services using the Health Information System?. To what extent can any improvements be traced to PHC Project activities? Are Swazis aware of what PHC services are available to them and has the use of these services increased? Have Project efforts to extend PHC services beyond static health facilities been successful? Do MOH personnel understand and support the objectives of the Project? Are Project activities generally consistent with the priorities of MOH personnel? Are the Project purpose and emphases supportive of current GOS health policies, plans, and priorities?

In addition, the evaluation team will:

- determine what impact (or change in environment) has been brought about by the activities of the PHC Project;
- document the lessons learned in the implementation of the PHC Project as well as the experience gained for use in the design of future health care development projects;
- determine the effectiveness of the PHC Project in accomplishing its purpose of improving and expanding Swaziland's primary health care system;
- determine whether or not Project activities have improved clinic-level services and developed the MOH's institutional capacity to continue providing adequate primary health care, particularly in the areas of maternal and child health.

ARTICLE IV Qualifications of Evaluation Team Members

The Primary Health Care Project covers a wide range of activities related to primary health care. It is essential that each evaluation team member, while focussing on one or more specialized aspects of the Project, be able to relate his or her area(s) to the overall Project as an integrated whole.

1. Team Leader (Public Health Physician): M.D. degree and Master of Public Health or equivalent degree required. Extensive and increasingly responsible experience in comprehensive health care program development, implementation, and assessment required, including in a developing country setting (preferably sub-Saharan Africa). Previous health project/program evaluation experience required, including AID project evaluation. Excellent analytical and writing skills required. Experience in developing country setting highly desirable. Experience with health care operations research desirable.

Health Information/Financial Management Specialist: An advanced degree in public health or related fields required, with emphasis in health information systems and/or financial management. Extensive experience required in the development, implementation and assessment of health information and financial management systems, including in a developing country setting (preferably sub-Saharan Africa). Previous health project/program evaluation experience required. Excellent analytical and writing skills required. Experience with health care operations research desirable.

Nurse/Midwife: Master's degree required in nursing, with emphasis in maternal and child health (MCH), midwifery, and/or family planning. Extensive experience required in comprehensive MCH program development, implementation and assessment, including in a developing country setting (preferably sub-Saharan Africa). Experience in curriculum development and teaching in MCH and related areas required. Excellent analytical and writing skills required. Experience with health care operations research desirable.

Health Training Specialist: An advanced degree required in education or appropriate related field, with emphasis in manpower planning and development, and preferably including curriculum development and assessment. Specialization in the health field especially desirable. Extensive experience required in manpower development, curriculum development, training, and the assessment of short-term training programs, preferably in the health field. Relevant experience in a developing country required (preferably in sub-Saharan Africa). Excellent analytical and writing skills required.

ARTICLE V Reports

1. The Evaluation team shall provide a full draft report (20 copies) and make an oral presentation (summary of findings, conclusions and recommendations) to GOS and USAID/Swaziland not later than October 26, 1990.
2. GOS and USAID will provide comments on the draft report to the team not later than October 30, 1990.
3. A member of the team will remain in Swaziland for up to one additional week to incorporate any necessary changes to the draft report and submit a final report (20 copies) prior to his/her departure.
4. The format of the final report will be consistent with the AID Project Evaluation Summary (PES) format.

ARTICLE VI. Relationships and Responsibilities

1. The evaluation team will coordinate its work through the USAID/Swaziland Health/Population Development Officer.
2. The team will be responsible for conducting the evaluation and assuring that its objectives are met in accordance with the evaluation schedule provided in ARTICLE VII below.

ARTICLE VII Terms of Performance

Beginning on or about October 1, 1990, the Contractor's Evaluation Team will conduct one-day site visits to the home office of the Project Contractor, Management Sciences for Health (MSH), in Boston, Massachusetts and the Project Subcontractor, The Charles R. Drew University, in Silver Spring, Maryland. Work will commence in Swaziland on or about October 5, 1990 for the entire evaluation team. All work is expected to be completed by November 2, 1990 with the submission of the final evaluation report.

ARTICLE VIII Work Days Ordered

A six-day work week is authorized in Swaziland.

ARTICLE IX Miscellaneous

1. Duty Post: Swaziland
2. Language: English
3. Access to Classified Information: None
4. Logistical support: USAID/Swaziland will make available all pertinent documents and files related to the Swaziland Primary Health Care Project. Limited office space will be provided for evaluation team use. The Contractor is expected to arrange for all secretarial assistance and computer support as well as transport for the evaluation team. USAID/Swaziland will assist in making appointments with GOS and other officials, and hotel and rental car reservations if requested.

ANNEX 2: PLACES/INSTITUTIONS AND PEOPLE VISITED

Annex 2: PLACES/INSTITUTIONS AND PEOPLE VISITED

Management Sciences for Health, Boston, Massachusetts

Dr. Ronald O'Connor	CEO
Mr. Peter Huff-Rousselle	Program Director, Strengthening Health Services (SHS)
Dr. Bob LeBow	Previous Program Director, SHS
Ms. Judy Seltzer	Deputy Director, SHS
Mr. Al Neill	Health Management Associate, previously assigned to the Swaziland PHC Project
Ms. Karen Anderson	Administrative Backstop for Swaziland PHC Project
Ms. Sharon Moerloos	Director, Contracts and Grants Office
Ms. Pam Putney, CNM	Consultant (member of PHC Project Mid-term Evaluation Team)
Ms. Carol Haupt	Director, Accounting Office
Mr. Richard Blakney	Drug Management

Charles R. Drew University of Medicine and Science, International Health Institute, Silver Spring, Maryland

Dr. Rosalyn King	Director
Ms. Jewel Bazilio	Project Manager and Training Coordinator
Mr. George Dines	Office of Finance and Contracts Management (Los Angeles campus)
Mr. Umar Hassan	Vice President for Finance (Los Angeles campus)

Primary Health Care Project

Dr. Dan Kraushaar	Chief-of-Party and Health Planning and Budgeting Associate
Dr. Vincent Joret	MCH Physician
Ms. Mary Kroeger	Nurse-Midwife/Child-Spacing Associate
Dr. Marilyn Edmondson	Clinic Management Associate
Mr. Ray Maseko	Adm. officer

US Agency for International Development (USAID)

Washington, DC:

Mr. Alan Foose	Previous HPN Officer, Swaziland
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Mbabane, Swaziland:

Mr. Roger Carlson	Mission Director
Ms. Mary Huntington	Deputy Mission Director
Ms. Leticia Diaz	Human Resources and General Development Officer
Mr. Jay Anderson	Regional Health and Population Development Officer (for Swaziland, Botswana and Lesotho)
Mr. James Bednar	Evaluation Officer
Mr. Max Walton	Executive Officer
Ms. Anita Henwood	Health Program Specialist
Dr. Dennis Sharma	USAID/Agriculture Development Officer

Government of Swaziland (GOS) Ministry of Health (MOH)

Mr. Chris Mkhonza	Principal Secretary
Mr. Ephraim Hlophe	Undersecretary
Dr. John Mbambo	Director of Health Services
Dr. Eddy McGrath	a/Deputy Director of Health Services
Mr. Mduduzi Hlophe	Senior Health Planner
Mr. Robert Shongwe	Assistant Health Planner
Mr. Sipho Hlophe	Principal Personnel Officer
Mr. Paul Thompson	Financial Controller
Ms. Nestor Shogwe	a/Chief Nursing Officer
Ms. Prisca S. Khumalo	Sister, Maternal Health and Family Planning Program Manager
Ms. Mavis Khumalo	Sister, Acute Respiratory Infection Program Manager
Ms. Hilda Mdluli	Sister, EPI Program Manager
Ms. Mandla Maduna	Assistant EPI Program Manager
Ms. Pitnera Mthembu	Senior Health Educator
Ms. Lombuso Nxumalo	Health Educator
Dr. Mohamed Ahmed	Obstetrician/Gynecologist, Mbabane Hospital
Ms. Trusty Masuku	Training Officer
Ms. Thandie Mdzebele	CDD Manager
Mr. Amos Zwane	Statistics Officer
Mr. Ernest Mnisi	Junior Statistics Officer
Mr. Wellington Mbhele	Junior Statistics Officer
Mr. Luke Mavuso	LT Trainee, University of Maryland, Eastern Shore
Ms. Siphiwe Ceko	Senior Clerical Officer, Personnel
Ms. Thembe Lukhele	Secretary/PHU Data Clerk

Ms. Mary Maguaza Sister, RHM Program Coordinator

RHM Training Course for Shiselweni Region (at the Farmer Training Center in Nhlangano):

Ms. Ivy Mkhonta	Nursing Assistant (NA), RHM Trainer
Ms. Togo Mkhonta	NA, RHM Trainer
Ms. Maria Motsa	RHM
Ms. Sibongile Ngwenya	RHM
Ms. Mirriam Phakathi	RHM

Regional MOH Administration:

Hlathikulu Hospital (MOH):

Nhlangano Public Health Unit

Hlathikulu Public Health Unit:

Ms. Alexis Masuku SN

Clinics and Outreach Sites:

Zombodze Clinic and Clinic-based Training Site (MOH)

Matsanjeni Clinic (MOH)

Makhava Clinic (MOH):

Ms. Sibongile Khoza SN

Our Lady of Sorrows (Mission):

Sister Lulina

Punga Clinic (MOH):

Sister Dlamini	Hospital Matron, member of Punga Community Health Committee
Ms. Makhosazana Dlamini	NA

Ms. Makhosazana Dlamini NA

Zindwendweni Outreach (MOH)

Siphofaneni Clinic:

Ms. Dudu Ndzimandze SN

92

Esigcawai Clinic:	
Ms. S. Maggulu	NA
Dwaleni Clinic:	
Ms. Phindile Mavuso	SN
Sinceni Clinic:	
Thembi Dlamini	SN

Lubombo Region PHC Administration and Facilities

Regional MOH Administration:

Mr. Alson Kunene	RHA, Lubombo Region
Dr. Michael Golding	Sitobela Health Center
Ms. Elizabeth Nyoni	a/Public Health Nursing Supervisor, Siteki PHU
Mr. Bongani Magongo	Regional health educator
Ms. Elizabeth Langwenya	a/Public Health Nursing Supervisor
Ms. Neamsile Gumbi	HIS Data Entry Clerk
Ms. Lindiwe Simelane	HIS Data Entry Clerk

Siteki Public Health Unit:

Ms. Thandi Ndzabundiuba	Senior SN
Ms. Thobile Madolo	SN
Ms. Dudu Masihela	SN

Good Shepherd Hospital:

Matron Zwane	
Dr. Aby Phillip	Senior Physician
Ms. Syble Ngine	NA with clinic-based PHC training (works in operating room)
Mr. Sibusisa	SN, Maternity Unit
Ms. Rose Gwebu	Public Health Unit
Ms. Letty H. Nhleko	Public Health Unit
Ms. Rejoice Shongwe	Public Health Unit
Ms. Thuli Mamba	Outpatient Department

Clinics:

Ebenezer Clinic (Mission)	
Ms. Phyllis Mamba	Nurse
Ikwezi Clinic (Mission):	
Ms. Gertrude Gamedze	SN
Lubuli Clinic and Clinic-based Training Site (MOH):	
Ms. Elizabeth Simelane	SN
Shewula Nazarene Clinic (Mission):	
Ms. Emma Dlamini	SN
Siteki Nazarine Clinic (Mission):	
Ms. Sibongile Mdlalose	NA
Tikhuba Clinic (MOH):	
Ms. Ngobile Shabangu	SN
Ms. Elsie Nhlabatsi	NA

Ubombo Crescent Clinic (Company):

Ms. Margaret Makandanje	Matron
Dr. Paul Canter	Medical Officer

Mpaka Railway Clinic:

Ms. Mlina Mathabela
Ms. Albertina Molsenjwa
Ms. Grace Bhembe

Malindza Refugee Camp:

Ms. Tholakele Dlamini

Rhohho Region PHC Administration and Facilities:

Regional PHC Administration:

Mr. Themba Ephraim Langa	Data Entry Clerk
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Emkhuzweni Health Center (Mission):

Ms. Astrid Hoyland	Matron
Dr. Jack Hickel	Medical Officer
Laboratory Technician	

Manzini Region PHC Administration and Facilities:

Regional PHC Administration:

Mr. Donald M. Luhlanga	a/Regional Health Administrator
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Mbabane Public Health Unit (MOH):

Ms. Rejoice Dlamini	SN
Ms. Clarice Mkhanta	SN

Mankayane Sub-region:

Ms. Dora Simblans	Clinic Supervisor
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Nursing Education Institutions:

Institute for Health Sciences:

Ms. Manly Mathurngwa	Principal
Ms. Rosalyn Manana	Basic Nursing Program

Good Shepherd Nursing Assistant School:

Sister Justina Mkhabela	Principal Tutor
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Nazarine Nursing School

Sister Freda Hlatshwayo	Principal
Ms. Roberta Caffrey	RN, Project Hope
Sister Faith Dlamini	Tutor responsible for Community Health Education

Raleigh Fitkin Memorial Hospital, Manzini:

Dr. Merki	Chief Medical Officer
Maternity Unit	SN

Department of Economic Planning and Statistics

Mr. Geoffrey P. West	Chief Economic Planning Officer
Ms. Sindi Mabuza	Senior Planning Officer
Mr. Dumisani Mahlinza	Assistant Planning Officer

Ministry of Labour and Public Service

Mr. Richard Tilley	Management Services Officer
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Family Life Association of Swaziland (FLAS), Manzini:

FLAS Headquarters:

Ms. Nomcebo Manzini	Acting Director
Mr. Tom Fenn	SINAN

FLAS Clinic in Manzini:

Ms. Nomsa Gamedze	SN
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Swaziland Infant Nutrition Action Network (SINAN):

Ms. Nomajoni Pat Ntombela	Sister, President
Ms. Mary Kroeger	CNM, Secretary

Save the Children:

Mr. William Msibi	Director
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United Nations Fund for Population Activities (UNFPA):

Dr. Rhodes Mwaikambo	Chief Technical Advisor,
	UNFPA/IPPF Project

Combatting Communicable Childhood Diseases:

Mr. Larry Brown	Technical Officer
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Central Statistics Office:

Mr. D. Lukhele

Hynd Clinic:

Dr. Samuel Hynd	Former Minister for Health
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95

ANNEX 3: PHCP PROGRESS TOWARDS ACHIEVEMENT OF INDICATORS

PRIMARY HEALTH CARE PROJECT
PROGRESS TOWARDS ACHIEVEMENT OF INDICATORS

USAID PROJECT NO. 645-0220
date: September 19, 1990

INDICATOR	SUB-INDICATOR	STATUS
1. Improve Service Delivery and Outreach Approaches Developed		
1.a	Establish 40 new Outreach sites, including provision of basic furnishings and equipment	Exceeded. Seventy-seven sites being assisted. Add'l upgrading of sites to be accomplished
1.b	Proportion of rural clinics from which nurses make regular home visits increased by 40% during project life	
1.b.1	Proportion of clinics doing regular home visits (21)	Regional reports: Lubombo - complete 45%; other regions partially completed (15 clinics reported)
1.c	Proportion of clinics offering priority PHC services to women and under-5 children is at least 78%	
1.c.1	Number of non-functioning maternities reactivated (6)	Three maternities renovated, two to be completed by December 1990. (staffing issue)
1.c.2	Number of maternity staff who have been trained in use of labor graph, post partum care, breast feeding (2, 8, 10, 7, 4)	Partogram developed 51 nurses trained to date.
1.c.3	Number of ORT corners established (36, 37)	All clinics in Shiselweni & Lubombo finished. Hhohho and Manzini partially completed
1.c.4	Proportion of clinics offering priority PHC services: ORT, EPI, Growth Monitoring, ANC, Family Planning (all 5, from Supervisory Checklist document only) (37, 42, 46, 17, 4, 6, 7, 8, 10)	all clinics

INDICATOR	SUB-INDICATOR	STATUS
1. Improve Service Delivery and Outreach Approaches Developed		
1.d	Proportion of clinics at which staff use Project-related manuals and protocols to effectively diagnose and treat patients is 50%	
1.d.1	Proportion of clinics using manuals developed and implemented by the PHC Project (Drug Formulary, Clinic Reference Manual, Clinic Orientation Manual, Clinic Orientation Manual) (20, 23, 21, 26, 28)	all clinics
1.d.2	Number of clinics with drug management system operational (21, 28, 26)	all clinics
1.e	Proportion of all clinics with functioning community health committees increased by 40% during life of the Project	
1.e.1	Proportion of clinics with functioning community health committee (document only). (21)	Lubombo - completed other regions partially complete
1.f	PHC Lab Services strengthened at least 50% of clinics and health centers are performing critical PHC Lab tests (30, 31, 32, 34, 35).	
1.f.1	Proportion of clinics either performing for having arrangements for the timely and effective performance of the RPR, and uristix tests for ANC patients (30, 31).	Clinics in two regions functioning well. Lab consultant report should document Hhohho and Manzini region status.
1.f.2	Number of regions having lab component in regional (32, 33, 34)	none
1.f.3	Number of regions having clinic level laboratory protocols (35)	Two regions for RPR all clinics have rudimentary protocols via MH/FP Manuals

INDICATOR	SUB-INDICATOR	STATUS
2.	Improved skills and Motivation of Health Workers Brought About by Improved Conditions of Service, Improved Transport and Communications, and Improved Supervision and Management Support	
2.a	In-country in-service training strengthened, emphasizing competency-based training methods, evaluation and follow-up.	
2.a.1	Number of regional-based training sessions held (21)	17 weeks of training excluding Hhohho
2.a.2	Number of clinic nurses and nursing assistants trained during clinic-based training (21)	97 staff nurses and 50 nursing assistants trained
2.a.3	Number of Ministry of Health (MOH) regional trainers trained and utilized in each region (21).	Shiselweni = 7, Lubombo = 6 Hhohho = 6
2.a.4	Number of clinic-based training sites established (21)	Shiselweni and Lubombo completed Hhohho and Manzini to be completed
2.a.5	Number of clinics re-organized including privacy curtains, filing systems, patient flow measures (9, 21)	Twenty nine in Lubombo, Hhohho and Manzini not started.
2.b	At least 80% of clinic nursing staff trained in priority PHC service areas, as well as in basic clinic management skills.	
2.b.1	Number of clinic nurses trained in high risk approach to ANC (4)	One hundred and forty seven clinic nurses trained.
2.b.2	Number of clinic nursing personnel trained in post-partum care (8)	Fifty one clinic nursing personnel trained
2.b.3	Number of clinic nurses trained in Family Planning (8)	Fifty one clinic nurses trained
2.b.5	Number of nurses trained in clinic management including drug management (1, 4)	Six hundred forty one (prior to clinic-based training)
2.b.6	Number of clinic nursing personnel trained in the new EPI protocols (7)	147 nurses and nurse ass't trained in CBT in Shiselweni and Lubombo. Two regions to go. Other training done through MCH workshops
2.b.7	Number of nursing personnel trained in CDD (42)	" " " "
2.b.8	Number of clinic nursing personnel trained in clinic and home treatment for ARI (46)	" " " "
2.b.9	Number of new health education materials developed (14)	No materials developed. 125 copies of FP flipchart ordered. ARI wallchart completed
2.b.10	Number of clinic nursing personnel trained in breastfeeding promotion (10, 18)	Fifty one clinic personnel trained.

INDICATOR	SUB-INDICATOR	STATUS
2.c	Appropriate service delivery tasks reassigned to nursing assistants and RHM's so that nurses' skills and times are more effectively used.	
2.c.1	Number of nursing assistants trained in clinic based training sessions (RHMs to accept increase expanded service delivery tasks) (36)	50 nursing assistants trained through CBT in Shiselweni and Lubombo. Hhohho CBT begun and Manzini to follow.
2.d	Improved conditions of service for rural clinic staff including provision of limited furnishings for nurses' accommodations	
2.d.1	Number of nurses accommodations upgraded in accordance with guidelines (22)	Forty-four identified, and four completed
2.d.2	Number of clinic-based personnel trained in generator repair and maintenance (25)	Completed. Nine people trained
2.d.3	Regional personnel subcommittees routinely addressing clinic-level staffing and personnel issues (55, 56, 59, 61)	All four regions have personnel subcommittees
2.d.4	Clinic supervisory visits addressing issue of conditions of service (27)	Completed for Lubombo as part of check-list

INDICATOR	SUB-INDICATOR	STATUS
2.e	Studies of MOH communications and transport systems completed and follow-up initiated with available Project resources	
2.e.1	The communications study completed	Communication Study Completed
2.e.2	Action on improvement of communications initiated (if mutually agreed)	Communication Study taken under advisement by MOH. PHC Project amended to discontinue further support MOH/USAID directed that NO action be taken
2.e.3	Transport study completed	Study Completed. Debriefings by Consultant with MOH and CTA to be held in October
2.e.4	Action initiated on improvement of transport system (if mutually agreed)	Action Plan drafted. To be reviewed by MOH in October
2.e.5	Twenty health officers trained and obtained government of Swaziland drivers licences (49)	Twenty-two under training and thirteen have passed. One has been granted GOS Permit
2.f	At least 80% of rural clinics receiving monthly supervisory visits from regional nursing supervisors	
2.f.1	Proportion of clinic receiving monthly supervisory visit from nursing supervisor. (2.f.1 & 2.d.4 relate to checklist)	Complete for Lubombo. Other regions reporting. HIS data available - 4 mo 1990

INDICATOR	SUB-INDICATOR	STATUS
3.	A Decentralized System of Planning, Budgeting, Personnel Management, Supervision and Financial Management in Place and Operating Effectively at MOH headquarters and in the Regions, in Accordance with Approved Regional Workplans	
3.a	RHMTs and Regional Health Advisory Councils operating effectively in all four regions	
3.a.1	Proportion of monthly meetings held by RHMTs each year	All regions meeting monthly on a schedule with intermittent extra meetings
	Proportion of RHMTs carrying out Team Effectiveness Appraisal at least annually	All regions have completed appraisal within last six months (see Special Report, File No. T15.7.1)
		Two Regional Health Advisory Councils Functioning. One defunct. One region works effectively through Regional Development Team under Regional Administrator
3.b	Decentralized planning, budgeting, personnel administrative and financial systems developed and operation in all four regions	
3.b.1	Annual workplans prepared by each RHMT for FY88/89, FY89/90 and FY90/91	For FY88/89: 2 regions For FY89/90: 3 regions For FY90/91: 4 Regions T15.1.1)
		MH/FP Three year plan done.
		MH/FP 1989 Annual Report Done
3.b.2	Annual regional recurrent budgets prepared and submitted, and reflected realistically in the regional workplans	Annual recurrent budgets prepared by all regions by responsibility centre (budget structure does not provide for aggregated regional budgets). Regional workplans drafted after budgets and RHMTs advised to adjust workplans following final budget approval by Parliament
3.b.3	Number of regional personnel systems operational	All regional personnel systems operational. System assessment being undertaken to identify areas for improvement.

INDICATOR	SUB-INDICATOR	STATUS
3.b.4	Number of regional planning, budgeting personnel, financial management and administration (including drug management, transport, clinic reference etc) manual produced and in use	<p>Introduction to planning: Done</p> <p>Regional Planning: Done</p> <p>Budgeting: in process by Financial Controller</p> <p>Personnel: Done. May be revised following assessment</p> <p>Training: In process (Drew)</p> <p>Finance: Done</p> <p>Information: In process by PHC Project</p> <p>Drug Management: Done</p> <p>Drug Formulary: Done</p> <p>Transport: Not done. Consultant's report provides material</p> <p>Clinic Operations: Done</p> <p>Clinic Orientation: Done</p>
3.b.5	Decentralization Task Force meeting regularly and monitoring decentralization process	<p>Task Force meeting infrequently. In January 1990 revised terms of reference to assume a more direct monitoring role. Last meeting in January 1990. Next meeting planned for October 1990.</p>
3.b.6	Decentralization study completed	<p>Decentralization study dropped in favor of direct revision of the "Guidelines". Revised draft completed</p>

INDICATOR	SUB-INDICATOR	STATUS
3.c	Health information systems developed and assisting both the central MOH and regions in reinforcing the decentralization process	
3.c.1	Number of RHMT's with operating health information system (5, 58, 64-67)	Four regional OPD HIS system operational
3.c.2	Proportion of RHMT's giving routing feedback reporting units based on HIS reports (5, 58, 64-67)	Sporadic implementation through clinic supervisors and RHMT/HIS subcommittee
3.c.3	Family Health Survey National Seminar held and regional seminar held in all four regions (72)	National Seminar completed Four regional seminars completed
3.c.4	Annual reports produced for 1987 - 1988 - 1989 and data collected for 1990 annual report (63)	Data available for reports HPSU Completed report for 1989 1989 MH/FP Report done.
3.c.5	Number of MOH personnel trained in HIS-related areas (computer, epidemiology, graphing, data analysis) (63 - 68, 70, 71).	599 MOH personnel trained in computer work, graphing, epidemiology (excluding completion of HIS forms) etc..
3.c.6	Strengthening of the central MOH Statistics Unit in terms of: Debugging the nursing registry Debugging the personnel System Inpatient data entry and reporting system Outpatient data entry and reporting system Documentation of inpatient data sets Documentation of outpatient data sets Consolidation of inpatient data sets Consolidation of outpatient data sets Establishing a central "computer library" (63, 68, 70, 71)	All systems operational including in-patient Completed Completed Completed Completed Completed Completed Completed In process Completed
3.c.7	Evaluation, revision and distribution of revised outpatient reporting forms (63-67)	Completed - additional review scheduled for early 1991 including reassessment of dBASE computer programs
3.c.8	Number of outpatient reporting unit personnel trained in the use of the new outpatient reporting forms	Three hundred eighty six in all four regions

INDICATOR	SUB-INDICATOR	STATUS
4.	An Increased Proportion of GOS Recurrent Expenditures for Health Devoted to PHC; and Mechanisms Developed for Absent Pilot Efforts to Provide Extra-Budgetary Support for PHC Programs	
4.a	MOH recurrent expenditures for PHC services increased from 15.3% in 1985/86 to 20.3% by 1990/91	
4.a.1	Proportion of MOH recurrent expenditure that go PHC services (from Paul Thompson)	Yes, for 85/86 - 89/90 expected to be met. Yes, for 85/86 - 89/90 expected to be met
4.b	Financial studies carried out (user fees, unit cost, financial management) both to strengthen MOH financial management and to enhance extra-budgetary support mechanisms (74)	
4.b.1	Three planned financial studies completed	Three studies completed
4.c	Pilot mechanisms developed in limited number of specific service areas (e.g., lab services at the clinic level) to provide potential for extra-budgetary support (76)	
4.c.1	Pilot mechanisms documented and/or introduced at clinic-level for cost recovery measures (76)	Pilot project in fee retention proposed. Consultancy to implement pilot project. planned for 1991 if approved by USAID and MOH
4.d	If appropriate, alternative financing scheme (s) should be carried out, evaluated and reported in a policy dialogue with MOH officials (75)	
4.d.1	CDD EPI/CDD cost study (75)	Completed
4.e	Number of people trained in budgeting and cost accounting (75)	
		Three hundred and eighty six people trained

ANNEX 4: SOME OF THE DOCUMENTS CONSULTED BY THE EVALUATION TEAM

Annex 4

SOME OF THE DOCUMENTS CONSULTED BY THE EVALUATION TEAM

Accountant General Consultancy Report on MOH Computerization Requirements, March 1990.

Amstrong, Alice Kavanaugh and Nhlapo, Ronald Thandabantu, Law and the Other Sex: the Legal Position of Women in Swaziland, Webster's, Mbabane. ISBN 0-7978-0365-4.

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ANNEX 5: OUT OF COUNTRY TRAINEES



International Health Institute

MEMORANDUM

Date: October 15, 1990

To: Ms. Judith P. Rooks
SPHCP Final Evaluation Team

From: Jewel Bazilio
Training Coordinator

Subj: Trainees' names and approximate training costs

As you requested, please find below the names of out-of-country trainees sponsored under the SPHCP and approximate costs of training for purposes of comparison.

Long Term Training:

1. Alfred Mndzebele	U.S.	8/86 to 8/89
2. Bongani Magongo	U.S.	8/87 to 8/90
3. Luke Mavuso	U.S.	8/87 to 6/91

The average cost per participant per year in the U.S. for long term degree programs is \$23,000.

Third Country Long Term Training:

1. Sr. Harriet Moibandzo Sr. Linah Dlamini	IDM/Botswana	3/87 to 12/87 Cost \$5,000
2. Ronald Manyatsi Sipho Matse Ntombie Ginindza	Lab. Tech. Lesotho	3/87 to 12/87 Cost \$12,500
3. Elizabeth Shongwe Sipho Shabangu Winston Dlamini	Lab. Tech. Lesotho	2/88 to 12/89. Cost \$26,000
4. Jabulile Nkhambule	Comm. Nrsng. Kenya	4/89 to 7/90 Cost \$8,000
5. Themba Makhanya Mary Ndlela	Hlth. Educ. Ibadan, Nigeria	10/88 to 2/90 Cost \$25,000

6. Duma Mamba	Hlth. Educ. Ibadan	2/90 to 2/91 Cost \$12,500
7. Africa Magongo	Hlth. Educ.	1/91 to 12/91

Short Term Training -- U.S.:

1. Abigail Dlamini Elizabeth Hlophe	MEDEX Hawaii	9/88 Cost \$16,300
2. Dr. Tentile Shilubane	SPH Boston Univ.	2/88 to 4/88 Cost \$9,000
3. Nestor Shongwe	MSH Boston	6/87 to 7/87 Cost \$10,600
4. Lindiwe Mokokong Thoko Maseko	MSH Boston	9/89 to 10/89 Cost \$14,100

Third Country Short Term Training:

1. Mduduzi Hlophe	Zimbabwe WHO PHC Review	5/25-6/14/87 Cost \$2,100
2. Ntombie Ginindiza Nicholine Shongwe Juliet Nyoni Sophie Nsibandze	Zimbabwe Phlebotomist Study Tour	6/19-23/88 Cost \$3,800
3. Mduduzi Hlophe Zandile Tshabalala	HIS Study Tour, Botswana	1/25-30/88 Cost \$1,400
4. Elizabeth Mndzebele Jerome Shongwe Isabel Zwane	Comm. Hlth. Tour, Kenya	11/7-29/87 Cost \$6,500
5. Gladys Matsebula Helen Msimango Fikile Gule Abigail Dlamini Zintombi Maziya Irene Mamba Catherine Dube Ivy Mkhonta Elizabeth Mndzebele Elizabeth Mabuza Sibongile Simelane Francis Ntshangase	Comm. Hlth. RHM Study Tour Kenya	1/16-30/88 Cost \$20,000

6. Dr. M. Makhubu	Decentral.	11/14-18/88
Sipho Hlophe	Study Tour	
Mduduzi Hlophe	Zimbabwe	
Q.Q. Dlamini		
Elisha Mdluli		
Dr. T. Hobbs		
Ephraim Hlophe	Botswana	11/14-18/88
Dr. Z. Gama		
Esther Dlamini		
Siphiwe Motha		
Ngwebendze Nhlabatsi		
Titus Khumalo		
Charles Mkhonza		Cost \$11,000

ANNEX 6: PHCP-FUNDED TRAINING EVENT

<u>ACTIVITY SER</u>	<u>TITLE OF WORKSHOP</u>	<u>REGION</u>	<u>NUMBER OF PARTICIP.</u>	<u>DATE</u>	<u>-COST EMALANGENI</u>	<u>COST/PERSON/DAY EMALANGENI</u>
1.	Planning Workshop	Lubombo	14	4-9-1986	531.66	38.00
2.	Planning Workshop	Shiselweni	18	5-9-1986	832.98	46.00
3.	Planning Workshop	Manzini	28	9-9-1986	334.54	12.00
4.	Planning Workshop	Hhohho	24	10-9-1986	70.00	3.00
5.	PLANNING FOLLOW-UP	HHOHHO	27	23-9-1986	416.06	15.00
6.	Project Workplan Form.	Mbabane	100	24-9-1986	699.10	7.00
7.	Project Workplan Dev.	Mbabane	65	30-9-1986	1072.70	17.00
8.	Health Managmnt Team Mt	Manzini	18	7-10-1986	158.50	9.00
9.	CLINIC MANAGEMENT W/SHOP	NATIONAL	80	15-10-1986	2249.65	28.00
10.	DECENTRALIZATION W/SHOP	LUBOMBO	43	17-10-1986	706.20	16.00
11.	PRIVATE SECTOR W/SHOP	NATIONAL	48	1-11-1986	552.25	12.00
12.	INTRO.ANTE-NATAL CARDS	LUBOMBO	18	27-11-1986	177.96	14.00
13.	ANTE-NATAL PROTOCOLS S	NATIONAL	20	11-12-1986	155.37	8.00
14.	ACCOUNTANCY W/SHOP PREP	NATIONAL	4	21- 1-1987	53.35	13.00
15.	CLINIC SUPERVISORS W/SHP	NATIONAL	26	30- 1-1987	881.35	34.000
16.	ACCOUNTANCY W/SHOP	NATIONAL	24	2- 2-1987	3171.55	132.00
17.	IST ED.FOR PHU STAFF	NATIONAL	50	2 TO 5 FEB,1987	3909.98	20.00
18.	COMMUNITY LEADERS W/SHOP	SHISELWENI	60	22 TO 25 FEB,1987	3591.56	15.00
19.	CMR REVIEW MEETING	NATIONAL	21	26- 2-198		667.90 14.00
20.	PLANNING W/SHOP	NATIONAL	48	2- 3-1987	667.90	14.00
21.	COMM.HE NURSING STDS	NATIONAL	5	6- 3-1987	132.52	27.00
22.	HHO. RHMT ORIENT MTNG	HHOHHO	100	12- 3-1987	39.10	00.39
23.	HHO. RHMT ORIENTATION	HHOHHO	70	19- 3-1987	38.50	00.55
24.	DRUG MANAGEMENT W/SHOP	HHOHHO	23	25 TO 26 MAR, 1987	1274.50	23.00
25.	HHO. RHMT ORIENTATIN	HHOHHO	45	26- 3-1987	61.50	1.00
26.	COMM. HE NURSING STDS	NATIONAL	16	27- 3-1987	31.08	2.00
					21809.86	21809.86
27.	REFERRAL FORMS W/SHOP	MANZINI	66	3- 4-1987	501.49	8.00
28.	INTERSECTORIAL W/SHOP	NATIONAL	40	6 TO 10 APR,1987		.
29.	ANC IST FOR MCH/FP MAN.	SHISELWENI	34	8-4- 1987	144.30	4.00
30.	TOT FOR RHM TUTORS	NATIONAL	17	12 TO 16 APR,1987	3809.34	56.00
31.	ACCOUNTANCY WORKSHOP	HHO. AND LUB.	40	22-4- 1987	601.05	15.00
32.	ACCOUNTANCY WORKSHOP	MANZ. AND SHI	40	23-4- 1987	601.06	15.00
33.	SUPERVISORY MANAGEMENT	NATIONAL	30	3- TO 6, MAY,1987	7454.92	50.00
34.	COMM.PARTICIPATION W/SHP	NATIONAL	32	10 TO-15 MAY,35. C	4511.96	28.00
35.	CHILD CARE W/SHOP	HHOHHO SOUTH	15	1 TO 6 JUNE,1987	1769.35	24.00
36.	CHILD CARE W/SHOP	LUBOMBO	28	15 TO 19JUNE,1987	449.85	4.00
37.	COMM.LEADERS W/SHOP	SHISELWENI	50	15 TO 19 JUN,1987	2696.85	11.00
38.	DRUG MANAGEMENT W/SHOP	HHO.AND SHIS.	35	22 TO 23 JUN,1987	3291.94	47.00
39.	MARTENAL CARE W/SHOP	NATIONAL	35	22 TO 25 JUN,1987	2157.43	15.00
40.	CHILD CARE W/SHOP	MANZINI	34	29-6 TO 3-7, 1987	385.95	5.00
41.	CHILD CARE W/SHOP	SHISELWENI	35	12-TO 17 JULY,1987	957.36	5.00
42.	CHILD CARE W/SHOP	MANKAYANE	28	26-TO 31 JULY,1987	618.44	4.00
43.	DRUG MANAGEMENT W/SHOP	SHISELWENI.	28	28-TO 30 JULY,1987	6281.83	60.00

44	COMM. LEADERS W/SHOP	MANZINI	58	2-TO 7 AUGUS, 1987	4640.00	16.00	
45	GENERATOR MAINTANANCE WORK SHOP	SHISELWENI	3	3 TO 4 AUGUS, 1987	541.31	60.00	
46	LAB SCIENCE W/SHOP	NATIONAL	31	3 TO 7 AUGUS, 1987	6066.46	39.00	
47	CHILD CARE W/SHOP	HHO.NORTH	27	10 TO 14 AUGUS, 1987	653.29		
48	T.O.T	NATIONAL	21	9 TO 14 AUGUS, 1987	6238.5	83.000	
49	SUPERVISORY MANAGEMENT WORK SHOP	NATIONAL	24	16 TO 21 AUGUS, 1987	1969.56	16.00	
50	BUDGETING W/SHOP	NATIONAL	15	07 TO 11 SEPT, 1987	2352.00	39.00	
51	HEALTH ED. WORK SHOP	NATIONAL	32	20 TO 25 SEPT, 1987	10858.31	68.00	8.3
52	GENERATOR W/SHOP	MANZINI	01	08 TO 11 SEPT, 1987	256.25	85.00	
53	DECENTRALIZATION T/FORCE	MANZ & SHIS	15	21 TO 22 SEPT, 1987	850.83	57.00	
54	TEAM BUILDING WORK SHOP	MANZ. & LUBOMBO	12	5 TO 9 OCT, 1987	3728.00	67.00	
55	GRAPHING W/SHOP	HHOHHO	15	15 OCTOBER, 1987		164.00	
56	PHC REVIEW	NATIONAL	36	18 TO 19 OCT, 1987		2220.00	
57	INTEGRATION OF ENVIROMENTAL HEALTH PROGRAMMES	NATIONAL	35	18 TO 19 NOV, 1987		2113.24	
58	INTERSECTORIAL COLLABORATION W/SHOP	NATIONAL	48	29/11to 4 DEC, 1987		10317.21	
	PHOTOCOPIER CHARGED TO PARTICIPANT TRAINING					20645.00	
59	Health Education Workshop	HHOHHO, MANZINI	81	25 TO 29 JAN, 1988		11888.97	
60	Basic Management Workshop	HHOHHO, MANZINI	93	7 TO 14 FEB, 1988		37692.83	
61	LABORATORY SCIENCE WORKSHOP	MANKAYANE	11	10 TO 11 MAR, 1988		247.37	
62	COMMUNITY LEADERS WORKSHOP	MANZINI	120	21 TO 25 MAR, 1988		3460.00	
63	COMMUNITY LEADERS WORKSHOP	MNKAYANE	88	28 TO 31 MAR, 1988		2331.25	
64	COMMUNITY LEADERS WORKSHOP	SHISELWENI	91	11 TO 15 APR, 1988		3208.62	
65	WARRANT HOLDERS WORKSHOP	NATIONAL	60	21 APRIL, 1988,		1115.05	
66	COMMUNITY LEADERS WORKSHOP	SHISELWENI	133	25 TO 29 APR, 1988		3500.10	
67	COMMUNITY LEADERS WORKSHOP	MANZINI	86	26 TO 30 APR, 1988		2775.00	
68	LAB SCIENCES WORKSHOP	NATIONAL	22	26 TO 29 APR, 1988		707.30	
69	TEAM BUILDING SKILLS WORKSHOP	SHISELWENI	9	2 TO 6 MAY, 1988		6633.82	
70	COMMUNITY LEADERS WORKSHOP	HHOHHO	57	2 TO 5 MAY, 1988		2705.24	
71	TEAM BUILDING SKILLS WORKSHOP	HHOHHO	20	16 TO 20 MAY, 1988		8340.82	
72	ANNUAL GENERAL MEETING	NATIONAL	32	16 TO 19 MAY, 1988		1036.49	

73.	BASIC MANAGEMENT WORKSHOP	HHOHHO, MANZINI	46	12 TO 17 JUN, 1988	17362.00
74.	MCH/FP WORKSHOP	HHOHHO	50	19 TO 24 JUN, 1988	8484.15
75.	DRUG MANAGEMENT WORKSHOP	LUBOMBO	60	19 TO 24 JUN, 1988	9385.90
76.	BASIC MANAGEMENT WORKSHOP	LUBOMBO, SHISELO	51	26/6 TO 1 JUL, 1988	
77.	MCH/FP WORKSHOP	MANZINI	50?	4 TO 8 JUL, 1988	12995.54
78.	WARRANT HOLDERS WORKSHOP	NATIONAL	60	5 JULY 1988	531.00
79.	MCH/FP WORKSHOP	LUBOMBO, SHISELO		11 TO 15 JUL 1988	20425.80
80.	MCH/FP WORKSHOP	HHOHHO	50?	18 TO 22 JUL, 1988	6565.15
81.	COMUNITY HEALTH COMMITTEE W/SHOP	MANZINI	52	18 TO 22 JUL, 1988	4681.72
82.	COMPUTOR TRAINING WORKSHOP	HHOHHO	8	18 TO 21 JUL, 1988	
83.	MCH/FP WORKSHOP	MANZINI	48	25 TO 29 JUL, 1988	197.25
84.	MCH/FP WORKSHOP	LUBOMBO, SHISELO	46	1 TO 5 AUG, 1988	945.40
85.	BASIC MANAGEMENT WORKSHOP, NAZARINE	MANZINI	35	1 TO 5 AUG, 1988	6500.40
86.	BUDGETING WORKSHOP	NATIONAL	15	8 TO 11 AUG, 1988	
87.	PUBLIC HEALTH AGM	NATIONAL	30	10 AUGUST, 1988	355.55
88.	PERSONNEL PROCEDURES WORKSHOP	HHOHHO	20	8 TO 11 AUG, 1988	
89.	LAB TECHS W/SHOP	NATIONAL	15	22 TO 25 AUG, 1988	1956.00
90.	COMPUTOR TRAINING	HHOHHO	8	18 TO 12 OCT, 1988	
91.	INTERSECTORIAL COLLABORATION W/SHOP	MANZINI	28	31/10 -3 NOV, 1988	2314.30
92.	AFRO INTERNATIONAL CONGRESS FO LAB TECHS	NATIONAL	20	7 TO 11 NOV, 1988	6244.32
93.	EPIDEMIOLOGY DEFINATION	MANZINI	19	1 DEC, 1988	241.75
94.	COMMUNITY LEADERS WORKSHOP	HHOHHO NORTH	57	27 FEB-3 MAR, 1989	2590.00
95.	COMMUNITY LEADRES WORKSHOP	LUBOMBO	51	3 TO 7 APRIL, 1989	3985.54
96.	AGM	NATIONAL	65	9 TO 13 APRI, 1989	
97.	COMMUNITY LEADERS WORKSHOP	LUBOMBO	55	15 TO 17 MAY, 1989	
98.	PERSONNEL MANAGEMENT WORKSHOP	MANZINI	15	22 TO 26 MAY, 1989	584.62
99.	COMMUNITY LEADERS WORKSHOP	MANZINI	45	22 TO 26 MAY, 1989	3,497.36
100.	INTERSECTORIAL COLLABORATION WORKSHOP	HHOHHO	60	29MAY-2JUNE, 1989	299.63
101.	SUPERVISORY MANAGEMENT WORKSHOP	MANZINI	31	5 TO 9 JUN, 1989	6850.40

102.	PERSONNEL MANAGEMENT WORKSHOP	LUB&SHISELO	15	5 TO 9 JUN, 1989	791.58
103.	TRAINING OF TRAINERS WORKSHOP		21	12 TO 16 JUN, 1989	2,221.63
104.	DRUG MANAGEMENT WORKSHOP		50	19 TO 23 JUN, 1989	12,387.60
105.	REG. PERSONNEL MANGMT WORKSHOP	NATIONAL	15	21 JUNE 1989	-
106.	FAMILY HEALTH SURVEY SEMINAR	NATIONAL	56	28 TO 29 JUN, 1989	3,347.16
107.	NATIONAL COMPUTER TRAINING WORKSHOP	NATIONAL	15	SEPTEMBER	1,603.76
108.	BUDGET AND PLANNING WORKSHOP	NATIONAL	9	JUNE 1989	863.35
109.	PERSONNEL MANAGEMENT WORKSHOP	SHIS/LUBOMBO	19	10 TO 15 JULY 1989	319.88
110.	BUDGET AND PREPARATION WORKSHOP	NATIONAL	50	7 TO 10 AUG, 1989	967.59
111.	CLINIC BASED TRNG	SHISELWENI	76	SEPT TO DEC, 1989	24875.00
112.	FHS SEMINAR	HHOHHO	47	3 NOV, 1989	1140.53
113.	PERSONNEL MANAGEMENT WORKSHOP	NATIONAL	19	6 TO 10 NOV, 1989	3084.95
114.	GENERATOR MAINTANANCE WORKSHOP	NATIONAL	5	6 TO 9 NOV, 1989	
115.	FHS SEMINAR	SHISELWENI	30	8 NOV, 1989	508.60
116.	DECENTRALIZATION SEMINAR	NATIONAL	9	4 DEC, 1989	189.47
117.	DECENTRALIZATION SEMINAR	NATIONAL	17	13 DEC, 1989	378.94
118.	CLINIC BASED TRAINING	LUBOMBO		FEB - JUNE, 1990	17,890.00
119.	FHS SEMINAR	LUBOMBO	22	JUNE 6, 1990	144.00
120.	BUDGETING AND PLANNING WORKSHOP	NATIONAL	69	JULY 13 - 26, 1990	
121.	COMPUTER TRAINING WORKSHOP	NATIONAL	11	AUGUST 13 - 17, 1990	7,400.45

ANNEX 7: OTHER TRAINING EVENTS AFTER THE MTE
WITH MAJOR PHCP INPUTS

Annex 7:

OTHER TRAINING EVENTS AFTER THE MTE

WITH MAJOR PHCP INPUTS

<u>Training Activity</u>	<u>Locale</u>	<u>Date</u>
Breast Feeding Management Course (funded by UNICEF)	National	25 July-5 Aug 89
First UNFPA FP Course	National	Oct.89-Nov.89
Second UNFPA FP Course	National	Feb.90-Mar.90
Third UNFPA FP Course	National	2 June-27 July 90
Breastfeeding Counselors Updates (funded by UNICEF)	Regional	14,15 June 18,19,20 July

ANNEX 8: CONSULTANCIES TO ASSIST WITH DECENTRALIZATION, PLANNING,
BUDGETING, FINANCIAL MANAGEMENT AND HEALTH CARE FINANCING

Annex 8:
**CONSULTANCIES TO ASSIST WITH DECENTRALIZATION, PLANNING,
BUDGETING, FINANCIAL MANAGEMENT AND HEALTH CARE FINANCING**

- 1986 Lucy Gilson: 3 weeks to conduct four regional planning workshops as a follow-up to earlier planning seminars held in the regions prior to the start of the PHC project.

David Alt: 18 days to hand over personnel procedures and develop a recommended approach for drafting a national manpower plan for the health sector.

- 1987 David Alt: 3 weeks to conduct a mini-study of the personnel management function under the decentralized health delivery system.

David Alt: 6 weeks to design and initiate a five-year national health manpower plan.

- 1988 Executive Development (Africa): consulting services on team building for RHMTs.

David Alt: 13 weeks to train regional staff in personnel management, set up procedures and files in the regions and to develop a decentralized system for planning and implementing in-service training.

- 1989 Peter Shipp: 6 weeks to work with the regions to help strengthen their planning and budgeting capabilities and produce a set of specific recommendations for changes.

Glyn M. Jones of R.F. Communications (Swaziland): consultancy to study communication needs of clinics.

- 1990 Peter Shipp: 6 weeks in two 3-week visits to analyze the vertical programmes and to develop a revised organizational structure for the MOH.

David H. Collins: 3 weeks to assess health service fees.

Robert C. Moore and David H. Collins: 12 weeks to design a unit costing system for hospitals and PHUs.

David H. Collins: 3 weeks to design a user fee pilot project.

Bernard McLoughlin: 12 weeks to develop a financial management procedures manual.

Richard Blakney: 3 weeks to develop a unit costing system for drugs and medical supplies for hospitals and health centers.

ANNEX 9: STATISTICAL TABLES

OUTPATIENT VISITS FOR CURATIVE CARE

<u>1983</u>	<u>HHOHHO</u>	<u>MANZINI</u>	<u>SHISELWENI</u>	<u>LUBOMBO</u>	<u>TOTAL</u>
					782,300
<u>1985</u>					
1st visit	181,612	229,601	118,042	255,328	
Reattendance	43,894	55,133	39,408	76,831	
					999,849
<u>1986</u>					
1st visit	189,065	210,829	123,514	245,224	
Reattendance	43,409	44,099	37,936	80,394	
					974,470
<u>1987</u>					
1st visit	256,751	254,909	150,518	292,855	
Reattendance	45,781	57,136	33,559	86,195	
					1,177,704
<u>1988</u>					
1st visit	271,649	225,545	164,140	278,372	
Reattendance	57,081	44,890	31,776	80,014	
					1,153,467
<u>1989</u>					
1st visit	269,907	251,559	162,686	238,234	
Reattendance	55,768	53,735	32,767	70,053	
					1,134,709

Source : MOH Statistics Unit, October 1990

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12

PRIMARY HEALTH CARE MORBIDITY

Swaziland 1985-1988

(Expressed as percentage of the yearly total nr. of new cases)

	1985	1986	1987	1988
1) ACUTE RESPIRATORY INFECTIONS...:	24.1	29.9	26.0	26.2
2) DIARRHOEAL DISEASES.....:	11.7	10.5	10.7	10.4
3) SKIN DISORDERS.....:	7.6	8.7	9.3	10.3
4) DIGESTIVE DISORDERS.....:	7.5	6.9	6.9	6.9
5) GENITO/URINARY DISORDERS.....:	6.6	6.6	6.1	6.3
6) SEXUALLY TRANSMITTED DISEASES.:	5.3	5.2	5.6	5.7
7) ACCIDENTS/TRAUMA.....:	5.0	4.6	5.1	5.2
8) MUSCULO SKELETAL DISORDERS.....:	3.1	3.4	3.2	3.4
9) EYE DISEASES.....:	2.2	2.1	1.8	2.3
10) INTESTINAL WORMS.....:	1.9	2.1	1.9	2.1
OTHERS.....:	25.0	20.0	23.4	21.2
TOTAL.....:	100.0	100.0	100.0	100.0

Note: These data represent ambulatory patients which were reported in O.P.Ds. from Hospitals and Health Centres, in Public Health Units, Clinics and Out-Reaches.
The percentages were calculated with the yearly country totals as denominators. The totals are 784583 new cases for '85, 768632 new cases for '86, 955033 for '87 and 939706 for '88.

STD OUTPATIENT VISITS

	<u>TOTAL</u>	<u>HHOHHO</u>	<u>MANZINI</u>	<u>SHISELWENI</u>	<u>LUBOMBO</u>
1985	41,738	10,598	10,596	6,212	14,332
1986	39,565	9,785	10,338	6,028	13,414
1987	53,428	16,270	11,243	7,278	18,634
1988	53,478	16,583	11,420	8,051	17,424
1989	51,909	14,533	13,231	7,900	16,245

Source : MOH Statistics Unit, October, 1990

OUTPATIENT ANTENATAL CARE VISITS

<u>1985</u>	<u>TOTAL</u>	<u>HHOHHO</u>	<u>MANZINI</u>	<u>SHISELWENI</u>	<u>LUBOMBO</u>
1st visit	37,891	11,522	11,495	8,059	6,815
Reattendance	91,045	23,749	27,673	18,684	20,939
<u>1986</u>					
1st visit	38,787	11,472	14,575	6,221	6,519
Reattendance	85,891	25,095	20,584	20,310	19,902
<u>1987</u>					
1st visit	29,090	7,917	8,233	6,895	6,045
Reattendance	76,693	18,922	22,275	20,294	18,202
<u>1988</u>					
1st visit	31,101	11,596	5,719	6,589	7,197
Reattendance	81,480	24,856	16,433	19,651	20,540
<u>1989</u>					
1st visit	28,680	9,415	5,566	7,274	5,509
Reattendance	79,429	21,368	15,874	23,297	16,012

Source : MOH, Statistics unit, October 1990

ANT
07/03/90 Outpatient Monthly Summary : 1990
NATIONAL SUMMARY

Months:	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
	---	---	---	---	---	---	---	---	---	---	---	---	-----
Sheets	109	99	152	138	105	4		2					603
First Attendance-1st TRIM	1650	346	888	498	480	0		0					4462
Re-Attendance - 1st TRIM	1293	1558	466	287	100	0		0					3694
RISK Referrals - 1st TRIM	409	93	179	125	64	0		0					870
FIRST ATTENDANCE-2nd TRIM	1271	1251	1699	1438	1388	0		0					7047
RE-ATTENDANCE - 2nd TRIM	3649	2831	2992	2411	2093	0		0					13376
RISK REFERRALS - 2nd TRIM	432	466	243	174	303	0		0					1613
FIRST ATTENDANCE-3rd TRIM	381	138	725	517	532	0		0					2293
RE-ATTENDANCE - 3rd TRIM	1202	904	4654	4168	4230	0		0					15153
RISK REFERRALS - 3rd TRIM	202	116	572	390	454	0		0					1734
LIVE BIRTH	125	260	486	456	425	0		0					1752
STILL BIRTH	110	3	14	3	8	0		0					132
ABORTION (< 28 WKS)	157	0	25	8	13	0		0					203
PERINATAL DEATHS	106	13	30	13	21	0		0					188
INFERTILITY - 1st Visit	117	16	84	36	18	0		0					371
STD'S - 1st Visit	234	233	1672	782	766	0		0					3747
POSTNATAL VISITS -1ST VIS	129	33	130	147	54	0		0					653
PAP SMEARS - FIRST VISIT	217	63	169	139	74	0		0					657
FP COUNSELLING - 2ND VISI	343	161	385	257	259	0		0					1504
INFERTILITY - SEC. VISIT	194	1	14	6	3	0		0					213
STD'S - SEC. VISIT	233	61	405	436	332	0		0					1467
POSTNATAL - SEC. VISIT	170	24	102	214	25	0		0					541
PAP SMEAR - SEC. VISIT	210	19	39	26	4	0		0					298
FP COUNSELLING - SEC. VIS	563	126	264	225	210	0		0					1393
HEALTH EDUCATION SESSIONS	952	901	1172	1063	1901	3		0					5092
HOME VISITS	73	43	242	215	197	0		0					770
CLINIC SUPERVISION VISITS	141	14	87	62	50	0		0					354

Source: Ministry of Health (Stats. Section)

FPLAN
07/03/90 Outpatient Monthly Summary : 1990
NATIONAL SUMMARY

	Months:	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
	---	---	---	---	---	---	---	---	---	---	---	---	---	-----
Sheets		92	89	139	123	98	4		2					547
NEW FP ACCEPTORS														

ORALS		324	209	488	408	191	0		0					1620
IUDCDs		163	33	107	57	15	0		0					375
INJECTABLES		341	429	525	385	314	0		0					1994
CONDOMS		227	572	473	306	290	0		0					1874
FOAMING TABLETS		133	43	74	49	60	0		0					364
DIAPHRAGMS		83	0	5	4	1	0		0					93
SPERMICIDES		72	18	16	12	7	0		0					125
OTHER		88	21	100	3	0	0		0					212
RE - ATTENDANCES														

ORALS		762	649	1572	1543	845	0		0					5373
IUDCDs		145	91	178	155	56	0		0					625
INJECTABLES		1376	1174	2923	1496	1235	0		0					7354
CONDOMS		340	368	1040	371	614	0		0					2633
FOAMING TABLETS		125	123	212	320	150	0		0					944
DIAPHRAGMS		61	0	1	2	1	0		0					65
SPERMICIDES		92	12	19	3	3	0		0					120
OTHER		108	10	13	7	1	0		0					139
SUPPLIES DISTRIBUTED														

ORALS		5685	4680	5359	4968	2673	0		0					23355
IUDCDs		446	161	170	111	25	0		0					913
INJECTABLES		2820	3183	2395	3472	1611	0		0					13372
CONDOMS		24436	22581	19701	15790	14244	0		0					96752
FOAMING TABLETS		3844	2648	3125	3273	2366	0		0					15653
DIAPHRAGMS		63	1	37	5	1	0		0					112
SPERMICIDES		111	34	91	120	10	0		0					416
OTHER		119	1	9	1	0	0		0					130

Source: Ministry of Health (Stats. Section)

CHILD
07/03/90 Outpatient Monthly Summary : 1990
NATIONAL SUMMARY

Months:	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
	---	---	---	---	---	---	---	---	---	---	---	---	-----
Sheets	106	98	146	139	102	4		2					597
0 - 11 Months													
Normal Weight	9253	8849	13650	12800	12710	75							57347
Under Weight	620	376	711	582	647	5							2941
Total	9873	9225	14361	13382	13357	80							60288
12 - 23 Months													
Normal Weight	5522	5317	8298	7617	8235	49							35023
Under Weight	636	494	1014	880	876	5							3905
Total	6158	5811	9312	8497	9111	54							38928
24 - 59 Months													
Normal Weight	5851	5800	10083	9375	9795	51							39815
Under Weight	616	462	994	913	369	14							3871
Total	6467	6262	11077	10288	10164	65							43686
Total Attendances	22253	20501	34750	32167	33042	190							142908

Source: Ministry of Health (Stats. Section)